Express5800

NEC

NEC ESMPRO Manager Ver. 5.4
Installation Guide (Windows)

Chapter1 Introduction

Chapter2 NEC ESMPRO Manager

Chapter3 System Requirements

Chapter4 Before Installation

Chapter5 Installation

Chapter6 After Installation

Chapter7 Uninstallation

Chapter8 Notes

Appendix

E5.41-02-STD

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Contents

Contents....2

Abbreviations of Operating Systems....3

Trademarks....4

External Libraries....5

Attention and supplementation with this book....8

1. Introduction....9

2. NEC ESMPRO Manager....10

3. System Requirements....11
- *3.1* Management PC....11
- *3.2* Managed server....13
- *3.3* Requirements for connection between the management PC and managed server....14
- *3.4* Notes on managed servers and network devices....16

4. Before Installation....18

5. Installation....21
- *5.1* Installation procedure....21
- *5.2* Notes on installation....28

6. After Installation....29

7. Uninstallation....38
- *7.1* Uninstallation procedure....38
- *7.2* Notes on Uninstallation....40

8. Notes....41
- *8.1* NEC ESMPRO Manager....41
- *8.2* NEC ExpressUpdate....52
- *8.3* NEC ESMPRO Manager PXE Service....54
- *8.4* Managed Servers....56
- *8.5* BMC Configuration....58
- *8.6* Web client....60
- *8.7* Applications run on the Management PC....62

Appendix....69

Abbreviations of Operating Systems

Windows Operating Systems are referred to as follows.

Notations in this document	Official names of Windows
Windows Server 2008 R2	Windows Server 2008 R2 Standard Windows Server 2008 R2 Enterprise Windows Server 2008 R2 Datacenter
Windows Server 2008	Windows Server 2008 Standard Windows Server 2008 Enterprise Windows Server 2008 Datacenter Windows Server 2008 Foundation Windows Server 2008 Standard 32-bit Windows Server 2008 Enterprise 32-bit Windows Server 2008 Datacenter 32-bit Windows Server 2008 Foundation 32-bit
Windows Server 2003 R2	Windows Server 2003 R2 Standard x64 Edition Windows Server 2003 R2 Enterprise x64 Edition Windows Server 2003 R2 Standard Edition Windows Server 2003 R2 Enterprise Edition
Windows Server 2003	Windows Server 2003 Standard x64 Edition Windows Server 2003 Enterprise x64 Edition Windows Server 2003 Standard Edition Windows Server 2003 Enterprise Edition
Windows 7	Windows 7 Professional 64-bit Edition Windows 7 Ultimate 64-bit Edition Windows 7 Professional 32-bit Edition Windows 7 Ultimate 32-bit Edition
Windows Vista	Windows Vista Business 64-bit Edition Windows Vista Enterprise 64-bit Edition Windows Vista Ultimate 64-bit Edition Windows Vista Business 32-bit Edition Windows Vista Enterprise 32-bit Edition Windows Vista Ultimate 32-bit Edition
Windows XP	Windows XP Professional x64 Edition Windows XP Professional

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Apache geronimo-activation	Copyright©The Apache Software Foundation
Apache geronimo-annotation	Copyright©The Apache Software Foundation
Apache geronimo-java-mail	Copyright©The Apache Software Foundation
Apache geronimo-stax-api	Copyright©The Apache Software Foundation
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Apache httpcore-nio-4.0	Copyright©The Apache Software Foundation
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libxml2	Copyright©Daniel Veillard. All Rights Reserved.
mail	Copyright©Sun Microsystems, Inc.
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I. Introduction

This document describes a system management utility NEC ESMPRO Manager.

The contents in this document are intended for users who fully understand features and operations of operating systems related to this utility.
If you want to know operations of the operating systems, or if there is any unclear point, see the online help of each operating system.

♦Notations used in the text

This document uses the following symbols:

Represents a caution or a thing that must be kept when using this utility or devices.

Represents a tip or useful information.

Represents a point that must be checked before using this utility or devices.

2. NEC ESMPRO Manager

NEC ESMPRO Manager is a software designed for reducing operational management costs by remotely managing servers.

Before attempting to operate the server management utility NEC ESMPRO Manager, read this document so as to gain an adequate understanding of the contents. And the operation notes after installation are described in document of the application. See it if you need.

NEC ESMPRO Manager has the following features.

Check Some models of managed servers may not support all functions. See "Managed Server" at "System Requirements".

- **Rebuilding even if the operating system on the managed server has failed.**

  Even if the operating system on the managed server is inoperable (in the state of operating system's stall, BIOS POST (Power On Self Test), or DC OFF), NEC ESMPRO Manager allows you to collect the managed server's hardware information and control the power supply.

- **Operation while viewing the managed server's screen.**

  While key-in and mouse operations are enabled, the managed server's screen can be viewed on the remote browser at any time during POST just after the managed server is turned ON and even after Windows or Linux has been booted.

  Check After Windows or Linux starts up, login to the EXPRESSSCOPE Engine series, key input and mouse operation are possible from remote KVM.

- **Operation of more than one managed server at a time.**

  By specifying a group, you can provide power control or change a setting for managed servers through a single operation.

- **Specification of remote operation time.**

  The managed server can be turned OFF or information can be collected at pre-specified time, so NEC ESMPRO Manager is available for nighttime batch processing.

- **Easy operation through the Internet.**

  The managed server can be operated with a Web browser. If you use Internet's standard SSL (Secure Socket Layer) for the NEC ESMPRO Manager, you enable secure remote operation from an external network.

- **Update of firmware and software on the managed server. (NEC ExpressUpdate)**

  NEC ExpressUpdate is the function that manages versions of modules like firmware and software on the managed server and that updates the modules.

  NEC ExpressUpdate can download the update packages automatically for the managed server, and install them without stopping the system.

3. System Requirements

NEC ESMPRO Manager requires the following hardware and software:

3.1 Management PC

Note
About product license
NEC ESMPRO Manager can be used on a single operating system per license.

- Hardware

- Machine	A computer on which an operating system supported by NEC ESMPRO Manager can be installed Intel Pentium 4 1.3GHz or higher , or equivalent compatible processor is recommended.
- Memory	Memory required for running the operating system plus 180MB or more (256MB or more is recommended.)
- Free hard disk space	340MB or more

- Software

- Operating system	Windows 7 (up to SP1) Windows Vista (up to SP2) Windows XP (up to SP3 for 32-Bit, up to SP2 for x64 Edition) Windows Server 2008 R2 (up to SP1) Windows Server 2008 (up to SP2) *1 Windows Server 2003 R2 (up to SP2) Windows Server 2003 up to SP2) NEC ESMPRO Manager PXE Service: Windows Server 2003 R2 (up to SP2) Windows Server 2003 (up to SP2)

*1 2008 Foundation SP2 is not supported.

Note
- NEC ESMPRO Manager is not available on Windows Server 2008 Server Core, and Windows Server 2008 R2 Server Core.
- NEC ESMPRO Manager PXE Service can be installed only on DHCP server.
- Before installation of the NEC ESMPRO Manager PXE Service, stop other PXE services and software having the PXE service function in the network.

- Web client	Internet Explorer 7.0 / 8.0 Firefox 3.5 / 3.6 (Windows / Linux)

Note
- If you use NEC ESMPRO Manager from a browser, install JRE 5.0 and above. On a point of the security, the latest version is recommended. If JRE is not installed, some pages are not displayed correctly.
- Java Applet and Java scripts must be executable.
- 1024 by 768 pixels or more are recommended as a screen area in display properties.
- The browser must be latest status such as applying a patch.

If the status is not updated such as preinstalled, some pages may not be displayed correctly.

♦ Number of managed servers

Addition of server licenses permits a single NEC ESMPRO Manager to manage a maximum of 1000 servers.

3.2 Managed server

A server to be managed by NEC ESMPRO Manager is as follows:

- About the managed server integrated BMC (Baseboard Management Controller), see "Appendix C Managed Components Summary" in "NEC ESMPRO Manager Ver.5 Setup Guide".

The required environment varies depending on the connection type with the managed server. See "3.3 Requirements for Connection between the Management PC and Managed Server".

- If you use SNMP (Simple Network Management Protocol) monitoring function, the following software is needed on managed server. (It is no matter if BMC is integrated or not.)
  - NEC ESMPRO Agent (Ver. 4.1 and above)

The following servers are not supported.

· NEC ESMPRO Agent for other vendor's server (up to Ver. 4.4)

· NEC Express5800/ft server

- If you use NEC ExpressUpdate function that manages versions of modules like firmware and software, the following software or EXPRESSSCOPE Engine 3 is required on the managed server.
  - NEC ExpressUpdate Agent

- If you manage RAID system using Universal RAID Utility on the managed server, the following software is required on the managed server.
  - Universal RAID Utility (ver.2.1 and above)

If Windows Firewall is enabled, communication with NEC ExpressUpdate Agent or Universal RAID Utility will be interrupted. To use NEC ExpressUpdate or manage RAID system with the Windows Firewall enabled, see Appendix "Port numbers / Protocols" and open the required ports

3.3 Requirements for connection between the management PC and managed server

Provide an environment in accordance with the connection type to be used.

- **LAN connection**
  - **TCP/IP network**

    Check
    - Do not use a cross cable to connect the manager server and managed server.
    - If you use the managed server integrated BMC, LAN port that BMC uses depends on the type of BMC. Some BMC uses standard LAN port. Other BMC uses a Management LAN Port. There are 2 types of managed servers on that BMC uses standard LAN port to connect with NEC ESMPRO Manager: one type is permitted to use only LAN1 port, and the other type is permitted to use both LAN1 and LAN2 ports. See "Appendix C Managed Servers Summary" in "NEC ESMPRO Manager Ver.5 Setup Guide".

  - **Modem connection (It can be only used to connect with BMC)**
  - **Phone line**
  - **Modem**

    Use a modem that supports the following functions:

Baud rate	:	19.2Kbps
Data bits	:	8bit
Parity	:	None
Stop bits	:	1bit
Flow control	:	Hardware (CTS/RTS)

    Check
    - Use the modem recommended for NEC Express 5800 series on the managed server.
    - Connect the modem to the serial port 2 on the managed server.

  - **Other Information**

    When BMC send alert to management PC via modem, it is necessary the following:

    - Dial-up router or PPP server

- **Direct connection** (It can be only used to connect with BMC)
  - **RS-232C cross cable**

    The serial port for direct connection on ESMPRO server. NEC ESMPRO Manager must be set following on the operating system.

Bits per speed	:	It should be set a same value with a value of BMC configuration on a managed server. The default value of BMC configuration is 19.2Kbps.
Data bits	:	8bit
arity	:	None
Stop bits	:	1bit
Flow control	:	Hardware (CTS/RTS)

· Do not use an interlink cable.
· Connect the RS-232C cross cable to serial port 2 on the managed server.
· Some models of managed servers do not permit use of any RS-232C cross cable other than the specified one. See the Maintenance Guide provided with the server.

3.4 Notes on managed servers and network devices

This section explains particular notes on managed servers and network devices.

- **Use of network switch / router**

  If the managed server installed BMC that uses a standard LAN port or loaded Advanced Remote Management Card, and there is network switch / router between manager server and the managed servers, set the network switch / router to receive Gratuitous ARP. See each document of the switch / router about how to set it.

  If Gratuitous ARP cannot be received, managed server that is power-off status is not connected.

- **Use of a layer-2 / layer-3 switching hub**

  Set "Disable" for the STP (Spanning Tree Protocol) function of the switching hub or the STP of the port to which a managed server is connected.

  Set "Enable" for the auto-negotiation function of the port to which a managed server is connected.

- **Use of DHCP**

  In case that BMC on the managed server uses a standard LAN port, communication between the NEC ESMPRO Manager and System BIOS or BMC is not compatible with a DHCP environment.

  Be sure to use a fixed IP address with the NEC ESMPRO server in which the NEC ESMPRO Manager is to be installed.

  To use a managed server in a DHCP environment, start the DianaScope Agent or NEC ESMPRO Agent Extension

- **Setting of Teaming for standard LAN with the OS (providing redundancy or multiplexing with multiple network adapters) on the managed server installed BMC that uses a standard LAN port**

  The managed server installed BMC that uses a standard LAN port shares the embedded standard LAN controller between BMC, System BIOS and OS, but the BMC and System BIOS do not support the LAN teaming modes including AFT (Adapter Fault Tolerance) and ALB (Adaptive Load Balancing). So if the AFT mode or ALB mode was made available by OS, NEC ESMPRO Manager can communicate with BMC and System BIOS only under the following conditions while Failover does not occur.

  - If RLB (Receive Load Balancing) is set with ALB (Adaptive Load Balancing), disable the RLB. (If RLB cannot be disabled, NEC ESMPRO Manager cannot communicate with BMC.)
  - Make the Teaming-set address ("preferred primary") identical to the LAN1 IP address and MAC address in the BMC configuration information.
  - Even if the configuration of LAN2 for the BMC on the managed server is available, do not set LAN2 in the BMC configuration information.
  - See "Appendix B B.1 On the managed server that BMC uses standard LAN port" in "NEC ESMPRO Manager Ver.5 Setup Guide" if you install DianaScope Agent or NEC ESMPRO Agent Extension on the managed server whose operating system is Windows.

    Note that NEC ESMPRO Manager cannot communicate with BMC when you use RLB (Receive Load Balancing) or FEC (Fast Ether Channel) teaming mode on the managed server.

- **[Setting of Teaming for LAN that DianaScope Agent or NEC ESMPRO Agent Extension uses with th e OS (providing redundancy or multiplexing with multiple network adapters) on the managed server installed BMC that uses a Management LAN port]**

  If the teaming setting is ma de available for the LA N port that Diana Scope Agent uses on the managed s erver installed BMC that uses a Management LAN port, see "Appendix B B.2 On the managed server tha t BMC uses a Management LAN p ort" in "NEC ESMPRO Manager Ver.5 Setup Gu ide".

- **Change of the hardware of a default gateway or an alert receiver**

  In case that there is a ga teway between a management PC and a managed server , re-configure BMC on the m anaged server after the change the hardware of the gateway. In case that there is not gateway bet ween an alert re ceiver and a managed server, re-configure BMC on the mana ged server after the change the hardware of the a lert receiver. The BMC on the managed server can know MAC address of th e new hardware by setting the B MC configuration.

- **Use of a dialup router or a PPP server**

  If an alert rec eiver via modem uses Windows Remote Access Service, select "Allow any authentication inc luding clear text" about the encryption on the Windows Remote Acces s Service properties.

- **Restrictions on use of the standard serial port 2 (COM2)**

  If an alert rec eiver via modem uses Windows Remote Access Service, select "Allow any authentication inc luding clear text" about the encryption on the Windows Remote Acces s Service properties.

  - The managed server compatible with SOL and set enable on following BMC Configuration items:
    "Remote control (WAN/Direct)"
    "Redirection (LAN)"
    "Redirection (WAN/Direct)"
  - Connection via modem or direct connection has been made.
  - Direct connection has been set in the BMC configuration information. (Even if the NEC ESMPRO Manager and managed server are not connected, the BMC occupies the serial port 2 (COM2).)

See "Appendix C Managed Components Summary" in "NEC ESMPRO Manager Ver.5 Setup Guide" to confirm whether that your server supports SOL.

4. Before Installation

Be sure to read this page before installing this product.

♦Security settings – Setting up the NEC ESMPRO User Group

To make the applications run on the management PC have proper access rights, the NEC ESMPRO User Group is needed. The NEC ESMPRO User Group name should be determined during the installation. The Manager setup names it "Administrators" by default.

If you want to specify another user group name, you must create it before installing the NEC ESMPRO Manager and specify the group name during installation. The NEC ESMPRO User Group is case sensitive.

Also, to make this security feature function effectively, install the NEC ESMPRO Manager on a hard drive formatted with NTFS.

When you create the NEC ESMPRO User Group as a global group, make sure that there is no local group having the same name. Also, when you install the NEC ESMPRO Manager on a Backup Domain Controller, you must create it as a global group.

♦Confirming the disk space required for operation

Prepare sufficient free space in the folder you specified at installation. By default, the installation folder is "¥Program Files¥ESMPRO" on the system drive.

The following files are added at operation. See them before you calculate the required disk space.

- **Managed server**

  About 10KB of disk space is required per managed server.

  Moreover, when the IPMI information is collected, maximum of 60KB of disk space is required.

- **Alert**

  About 1KB of disk space is required per alert.

♦Setting access permissions

When installing the NEC ESMPRO Manager in an already existing folder, the NEC ESMPRO Manager will not operate unless the access permissions required for the NEC ESMPRO Manager operation have been set.

When installing the NEC ESMPRO Manager in a folder that does not exist, the following access permissions are set by the installer:

Administrators Full Control(All)(All)

Everyone Read(RX)(RX)

SYSTEM Full Control(All)(All)

If you specified a user group other than the default (Administrators) as the NEC ESMPRO User Group at the installation, Full Control access permissions will be set for it.

♦Remote installation of NEC ESMPRO Manager

When installation of the NEC ESMPRO Manager completes, you need to reboot the system.

Careful attention is needed to install the program in the environment where reboot cannot be performed from the Start menu, such as on Remote Desktop of Windows XP.

The operating system can be restarted by running the following command at Command Prompt:

Ex.) When you want to restart the system immediately: shutdown -r -t 0

♦Installation for multisession terminal server access

Perform the following operation to install the NEC ESMPRO Manager for multisession Terminal Server access:

- **For Windows Server 2003/Windows Server 2003 R2**

  Use [Add New Programs] from [Add or Remove Programs] in [Control Panel].
- **For Windows Server 2008**

  Use [Install Application on Terminal Server] in [Control Panel].
- **For Windows Server 2008 R2**

  Use [Install Application on Remote Desktop Server] in [Control Panel].

If you do not follow the procedure above, a message indicating the occurrence of the error during the setup is displayed and the setup stops.

♦If you do not follow the procedure above, a message indicating the occurrence of the error during the setup is displayed and the setup stops.

- If NEC ESMPRO Manager Ver. 4.1 or later has been already installed, you can update it to this version. If any version other than the above has been installed, uninstall it before installation.
- Note that if you perform update installation from NEC ESMPRO Manager Ver. 5.0 or prior with the Web Component installed, the Web Component will be uninstalled at the update installation.
- Note that "BMC Remote Control Tool" for out-of-band management included in the NEC ESMPRO Manager Ver. 4.43 / Ver. 4.51 will be removed and cannot be accessed if you upgrade your NEC ESMPRO Manager to this version.

♦If DianaScope Manager has been installed

If DianaScope Manager has been installed, you can update it to this version. The information registered to DianaScope Manager will be inherited.

♦To use the HP OpenView Integration

If you use HP OpenView Integration, install HP OpenView Network Node Manager before installing the NEC ESMPRO Manager.

The HP OpenView Integration does not support Windows Vista / Windows Server 2008 and later.

♦Sample of Script Component

When you changed a sample of the Script Component and saved it as the original file name, change the file name before performing update installation. If you perform update installation without doing that, the sample will be overwritten and the changes might be initialized.

♦If NEC MWA has been installed

If MWA (Management Workstation Application) has been installed, you cannot install NEC ESMPRO Manager. Uninstall MWA.

5. Installation

This page describes fresh installation and update installation of the NEC ESMPRO Manager.
Be sure to read Before Installation before installing this product.

5.1 Installation procedure

1. **Logon as a user with administrative privilege.**

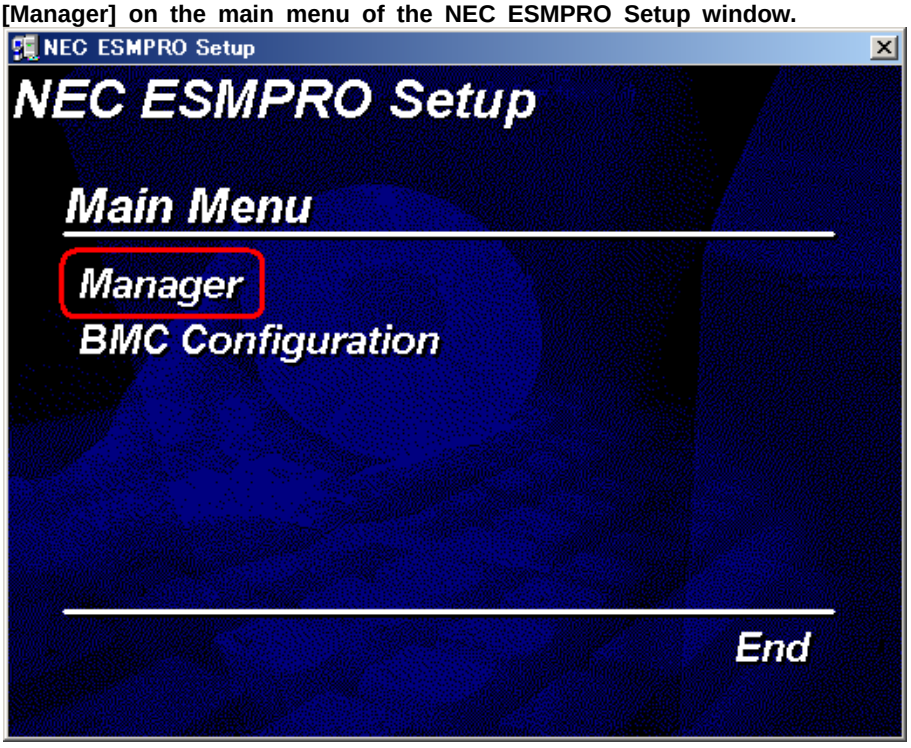
2. **Insert the EXPRESSBUILDER into the Optical disk drive.**
   The EXPRESSBUILDER Windows Autorun Menu is automatically displayed by the Autorun function. If the device selection window is displayed, select the device you are using.

   Note
   If Windows Autorun Menu does not launch, run "<revision number>¥WIN¥ESMPRO¥EN¥ESMMENU¥setup.exe" included in the DVD-ROM to start up NEC ESMPRO Setup.

3. **Click [Setup software] and then [NEC ESMPRO].**
   NEC ESMPRO Setup launches and the Main Menu is displayed.

   Note
   If User Account Control is enabled on Windows Vista or Windows Server 2008 and later, the User Account Control window appears. Click [Continue] to proceed.

4. **Click [Manager] on the main menu of the NEC ESMPRO Setup window.**

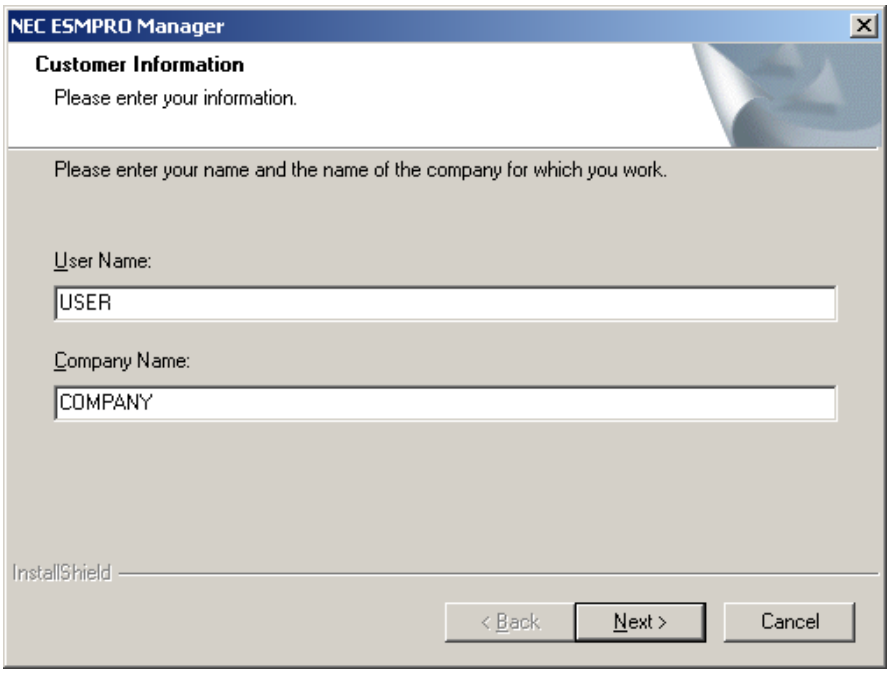


Note If you double-click to select a menu, two same dialog boxes may appear. Click [Exit] to close one of the dialog boxes.

Tip The displayed menu varies depending on the environment.

5. **Enter the user information.** (For update installation, this is not displayed.)

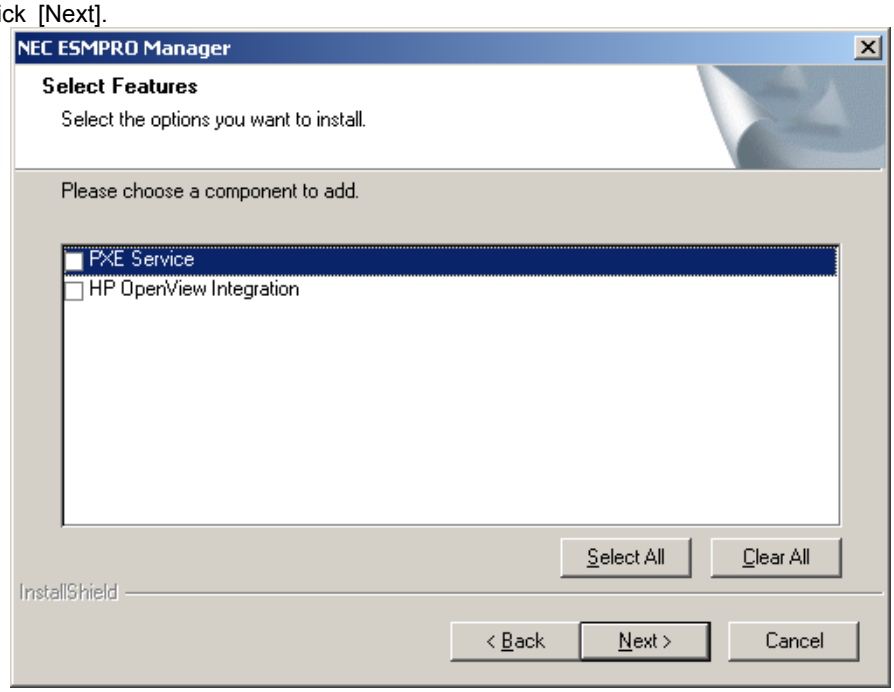
Enter your user name and company name, and then click [Next]. Enter your user name and company name, and then click [Next].



The user name and the company name entered here are information the NEC ESMPRO Manager manages. There are no influences to the user registration information of the operating system.

6. **Select features to be added.**

Features that can be added to NEC ESM PRO Manager are listed. Select features you want to add and click [Next].

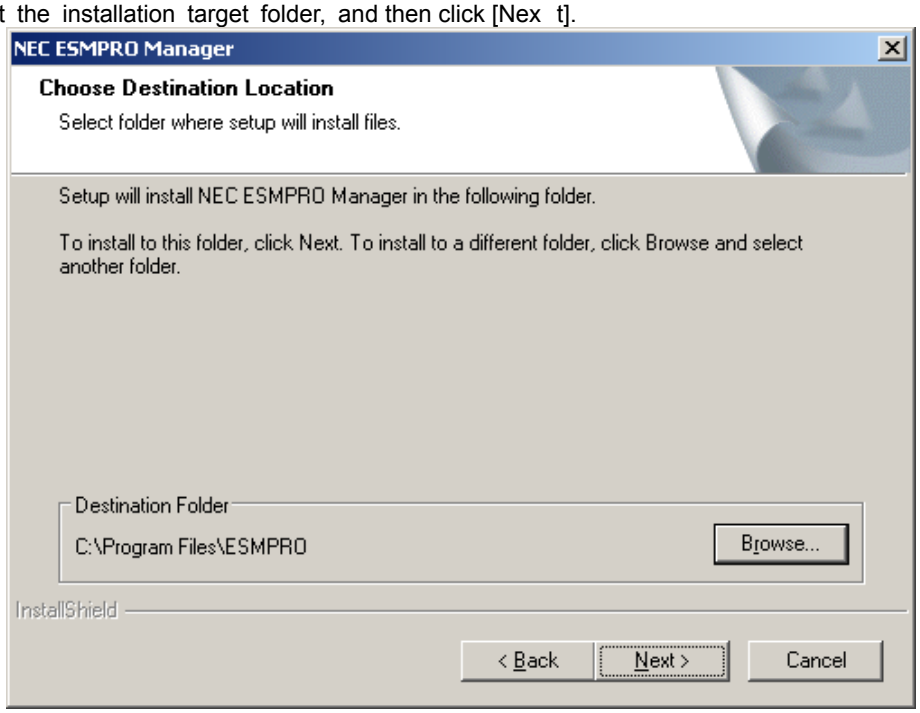


Tip

Features to be displayed in the list vary depending on your environment (features that can be installed are listed). If no features can be added, this dialog box is not displayed.

7. **Select the installation destination.** (For update installation, this is not displayed.)

Select the installation target folder, and then click [Next].

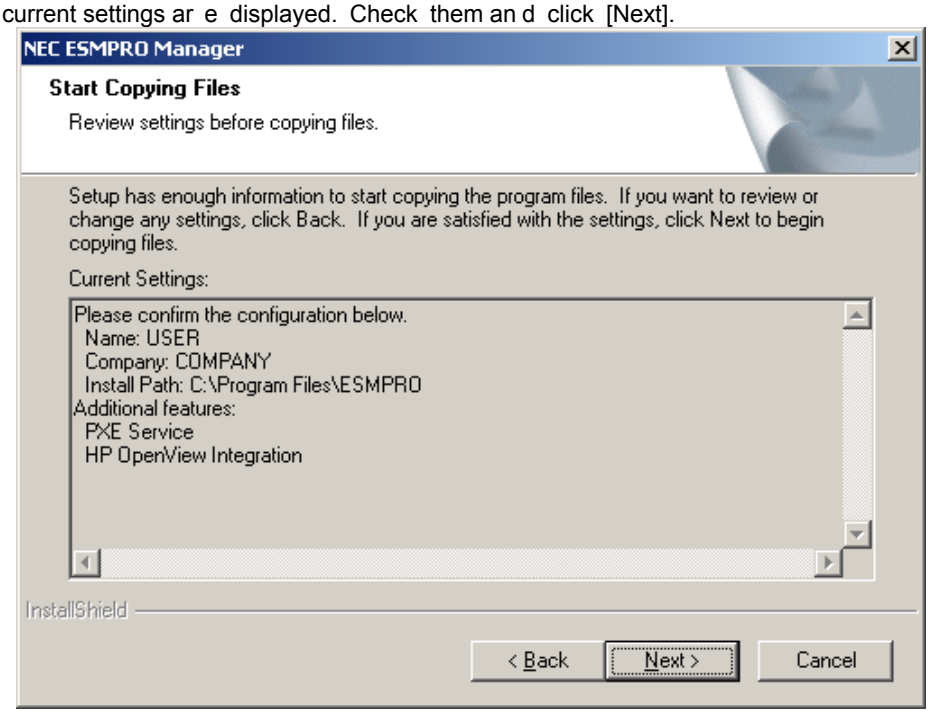

NEC ESMPRO Manager
Choose Destination Location
Select folder where setup will install files.
Setup will install NEC ESMPRO Manager in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\ESMPRO
Browse...
InstallShield
< Back
Next >
Cancel

Note

The default directory for 64-bit OS is "[system drive]:¥Program Files (x86)".
You cannot specify "[system drive]:¥Program Files" for the installation directory in the 64-bit OS.

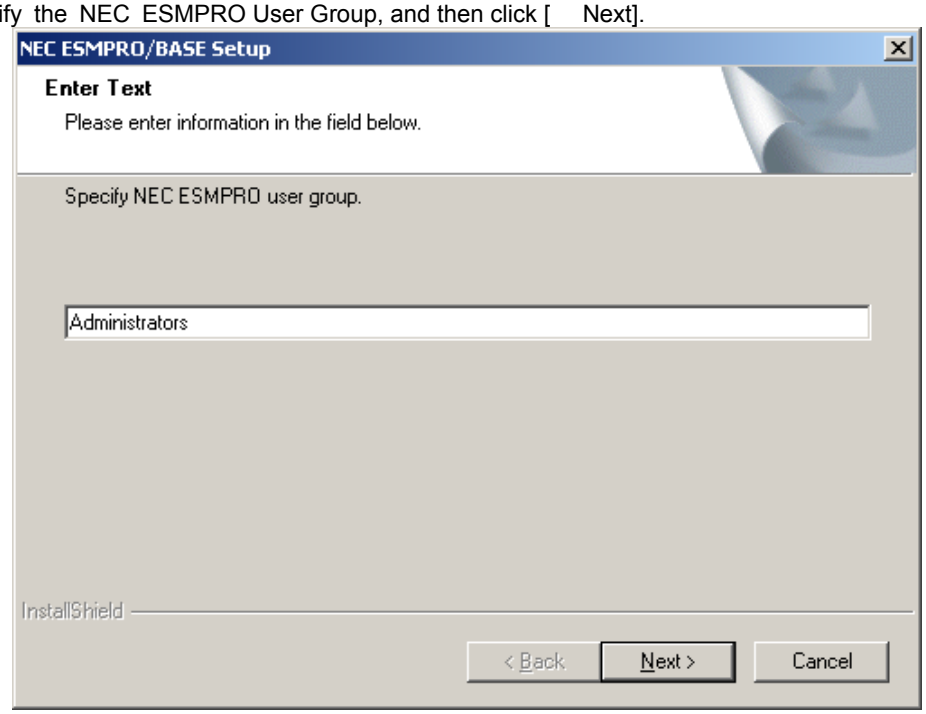
8. Check the current settings.

The current settings are displayed. Check them and click [Next].


NEC ESMPRO Manager
Start Copying Files
Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Please confirm the configuration below.
Name: USER
Company: COMPANY
Install Path: C:\Program Files\ESMPRO
Additional features:
PXE Service
HP OpenView Integration
InstallShield
< Back
Next >
Cancel

9. Enter the NEC ESMPRO User Group. (For up date installation, this is not displayed.)

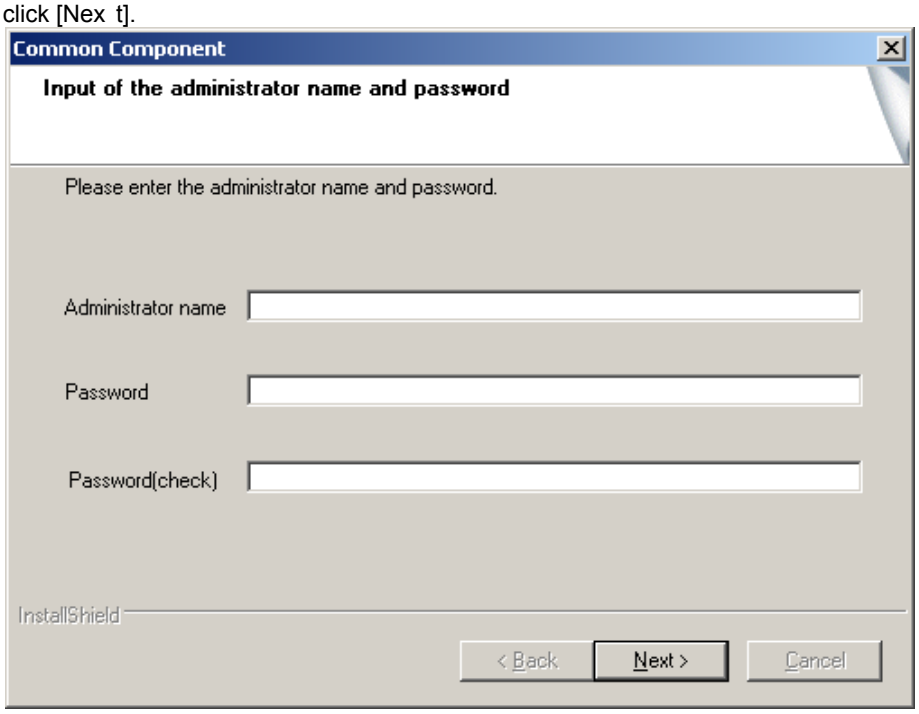
Specify the NEC ESMPRO User Group, and then click [Next].



10. Enter the administrator name and the password.

(For update installation from DianaScope Manager and NEC ESMPRO Manager Ver. 5, this is not displayed.)

Create the NEC ESMPRO Manager administrator. Specify the administrator name and password, and then click [Next].



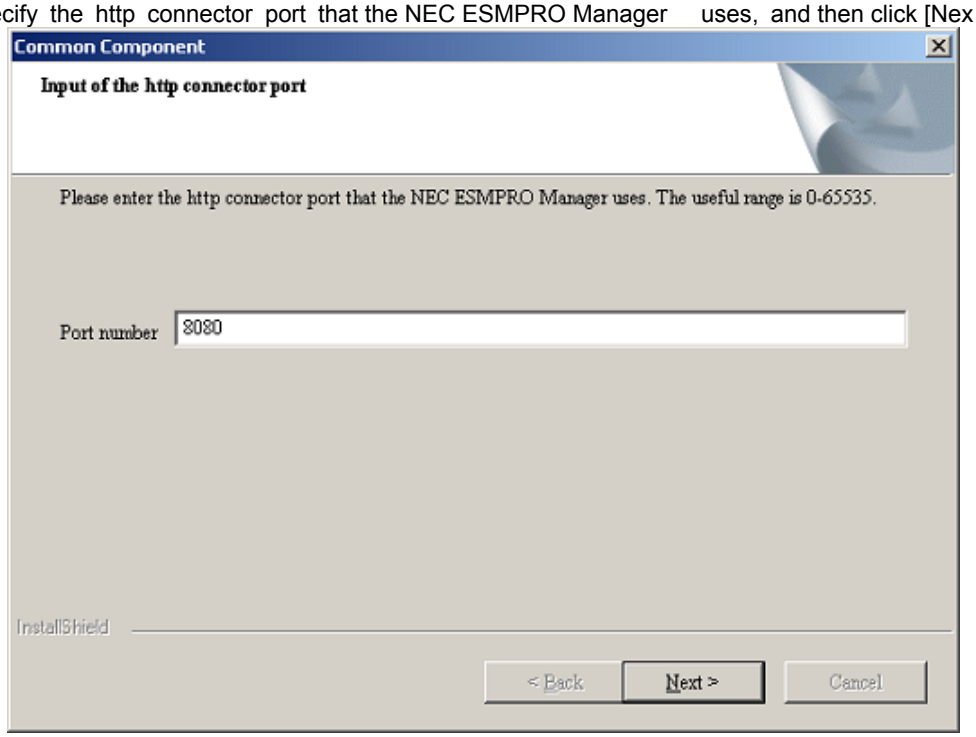
Check

- Specify the administrator name with 1 to 16 alphanumeric characters, and the password with 6 to 16 alphanumeric characters.
- Administrator name is the user name to operate NEC ESMPRO Manager with the administrator authority.

11. Input of the http connector port.

(For update installation from DianaScope Manager and NEC ESMPRO Manager Ver. 5, this is not displayed.)

Specify the http connector port that the NEC ESMPRO Manager uses, and then click [Next].

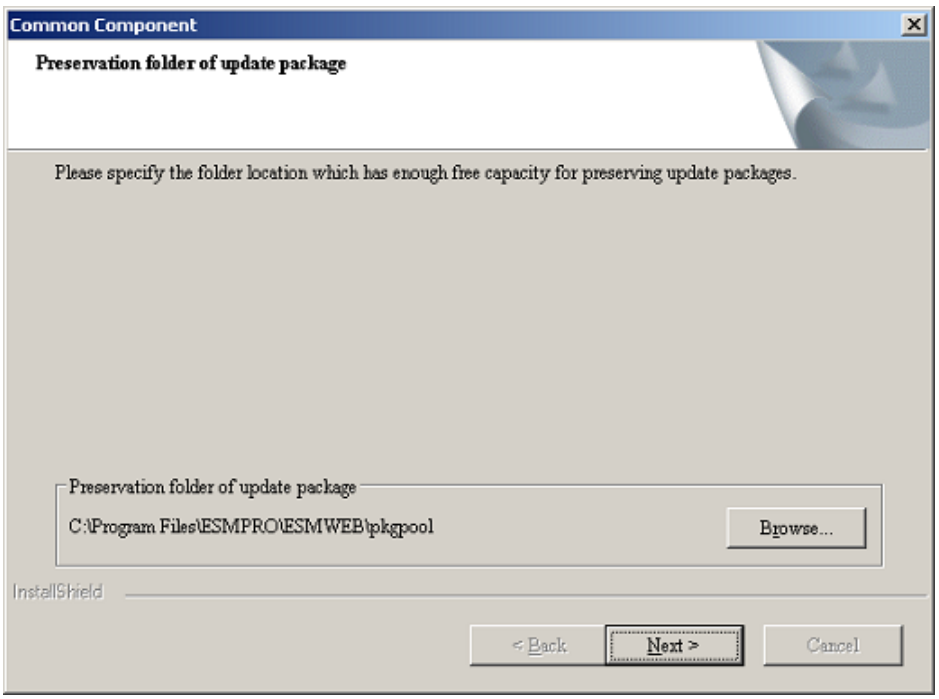

Common Component
Input of the http connector port
Please enter the http connector port that the NEC ESMPRO Manager uses. The useful range is 0-65535.
Port number
8080
InstallShield
< Back
Next >
Cancel

Check The useful range of the http connector port is 0-65535.

12. Enter preservation folder of update package.

(For update installation, this is not displayed in case that the folder has been specified.)

Specify the preservation folder of update package, and then click [Next].



Tip This folder will be used as a repository of update packages for NEC Express Update.

Check This folder is required plenty of space. The default preservation folder is "Installation target folder¥ESMWEB¥pkgpool".

Wait until the installation completes. Some installation windows are displayed during the installation. If you click [Cancel], the installation can be aborted but the installed files are not deleted.

13. The installation completes.

Click [OK] and then restart the operating system (the system will not automatically restart.).

* If this computer is intended to be used in EXPRESSCLUSTER system, you need to do some extra work before restarting the computer. Refer to the EXPRESSCLUSTER document.

5.2 Notes on installation

♦Message on NEC ESMPRO Manager install

Windows Server 2008 R2 / Windows 7 installing NEC ESMPRO Manager the message that "Windows Explorer has stopped working" might be displayed. However, installation was normally completed. The system doesn't have the influence.

♦Program Compatibility Assistant dialog box

A message "This program might not have installed correctly" may popup after installing NEC ESMPRO Manager complete. In such a case, you can safely click [This program installed correctly] or ［Cancel] button to close the dialog because the installation is done successfully.

6. After Installation

♦Login

When the installation of the NEC ESMPR O Manager completes, check that you can login to it.

1. **Access to the following address on a Web browser on the Web client.**

   http://"*the computer name installed the NEC ESMPRO Manager*":"*the HTTP connection port number*"/esmpro/

   This is an example of address to access with the HTTP connection port "8080" from the web browser on the Management PC.

   http://localhost:8080/esmpro/

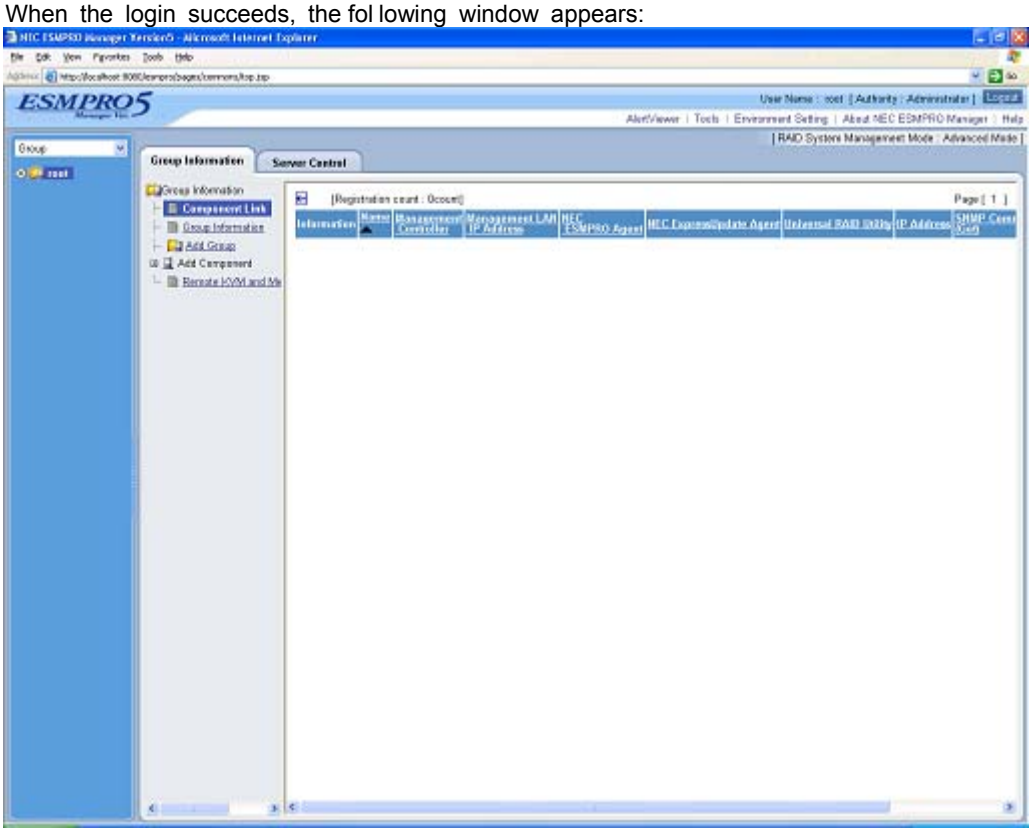
   ∗ If EXPRESSCLUSTER system is installed, access to the following address:
   http://"*FIP(Floating IP) or Virtual computer name*":"*the HTTP connection port number*"/esmpro/

   Tip The NEC ESMPRO Manager can be started up by clicking its icon created on the desktop after the installation.

2. **The NEC ESMPRO Manager login window opens.**

   Enter the administrator name and the password that were registered at the installation, and click the [Login] button.

When the login succeeds, the following window appears:



Check

The area on which commands, such as [AlertViewer], [Tools] are displayed is called [Header Menu]. Use these commands on the [Header Menu] to operate the NEC ESMPRO Manager.

♦Setting environment

You can change the optional setting of the NEC ESMPRO Manager.

Click [Environment Setting] on the [Header menu] to check the setting. For details, see the online help.

- **Set a modem**

  The modem that is used to connect with a managed server should be set on the operating system on the Management PC.

  If Management PC has plural modem driver on Windows, input the modem name to use the connection in the DianaScopeModemAgent.ini file under the System32 folder. The modem names are shown on device manager on Windows. The following is an example of DianaScopeModemAgent.ini file.

```
modem=Standard 56000 bps modem
```

♦SSL

If you need to login to the NEC ESMPRO Manager using SSL, you should change the setting of the NEC ESMPRO Manager. Perform the procedure that is necessary in order to use SSL with the NEC ESMPRO Manager as follows:

1. **Create a key**

   The Key tool is needed for creating the key using with SSL. The Key tool is contained in the JRE. Create the key as follows:

   In the case of NEC ESMPRO Manager installed in "C:¥Program Files¥ESMPRO":

   Windows(32 bits):

   ```
   C:¥Program Files¥ESMPRO¥ESMWEB¥jre¥bin¥keytool" -genkey -alias tomcat -keyalg RSA
   ```

   Windows(64bits):

   ```
   "C:¥Program Files (x86)¥ESMPRO¥ESMWEB¥jre¥bin¥keytool" -genkey -alias tomcat -keyalg RSA
   ```

   Some messages are displayed with dialog style. Input the information about the creator of the key.

   You need to set the same password as the keystore password to the key password for <sdo>.

   The following is shown an example.

   ```
   Enter keystore password: ******
   What is your first and last name?
     [Unkno  wn]: Scott Oaks
   What is the name of your organizational unit?
     [Unknown]: SMCC
   What is the name of your organization?
     [Unkno  wn]: Sun Microsystems
   What is the name of your City or Locality?
     [Unknown]: New York
   What is the name of your State or Province?
     [Unknown]: NY
   What is the two-letter country code for this unit?
     [Unknown]: US
   Is <CN=Scott Oaks, OU=SMCC, O=Sun Microsystems, L=New York, S=NY, C=US> correct?
    [no]:  yes
   Enter key password for <sdo>
   (RETURN if same as keystore password): ******
   ```

   Confirm that the key was created.

   ```
   %USERPROFILE%¥.keystore
   ```

%USERPROFILE% means C:¥Document and Settings¥<logon user>

2. **Change the setting of NEC ESMPRO Manager.**

```
<--Define a SSL HTTP/1.1 Connector on port 8443-->
<!--NOTES: Delete th ese lines
<Connector port="8443"  NOTES: Change it if you need.
    maxHttpHeaderSize="8192"
    maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
    enableLookups="false" disableUploadTimeout="true"
    acceptCount="100" scheme="https" secure="true"
    clientAuth="false" sslProtocol="TLS"
    keystoreFile="<the directory that contains keystore>/.keystore"
    keystorePass="<the password>"  NOTES: Add thes e lines.
     />
-->  NOTES:Add these lines.
```

3. **Reboot the Management PC.**

   Reboot the s erver installed the NE C ESMPRO Manager.

4. **Login.**

   Confirm to l ogin to the NEC ESMPRO Manag er with "https:".

   Make access to the foll owing address using the W eb browser on the Web client.

   https://" the comput er name inst alled the NEC ESM PRO Manager":" port number that is specified in server.xml"/esmpro/

   An example of address to access from the web browser on the M anagement PC i s shown.

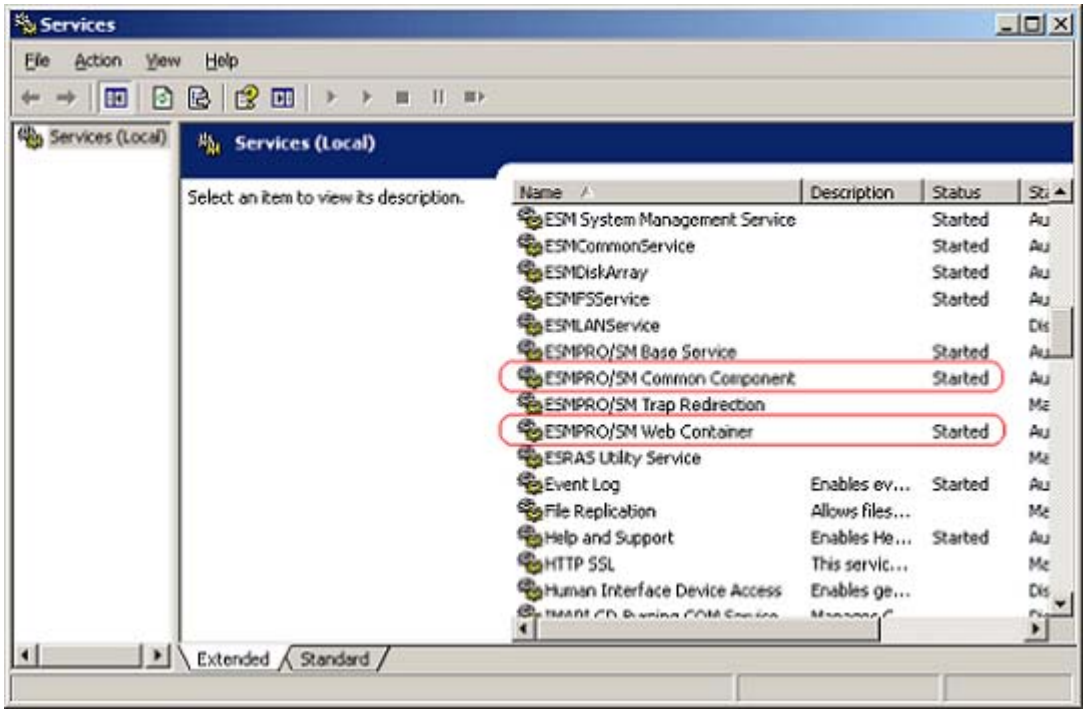
   https://localhost:8443/esmpro/

♦Changing the port number

You can change the available port number after installation of NEC E SMPRO Manager.

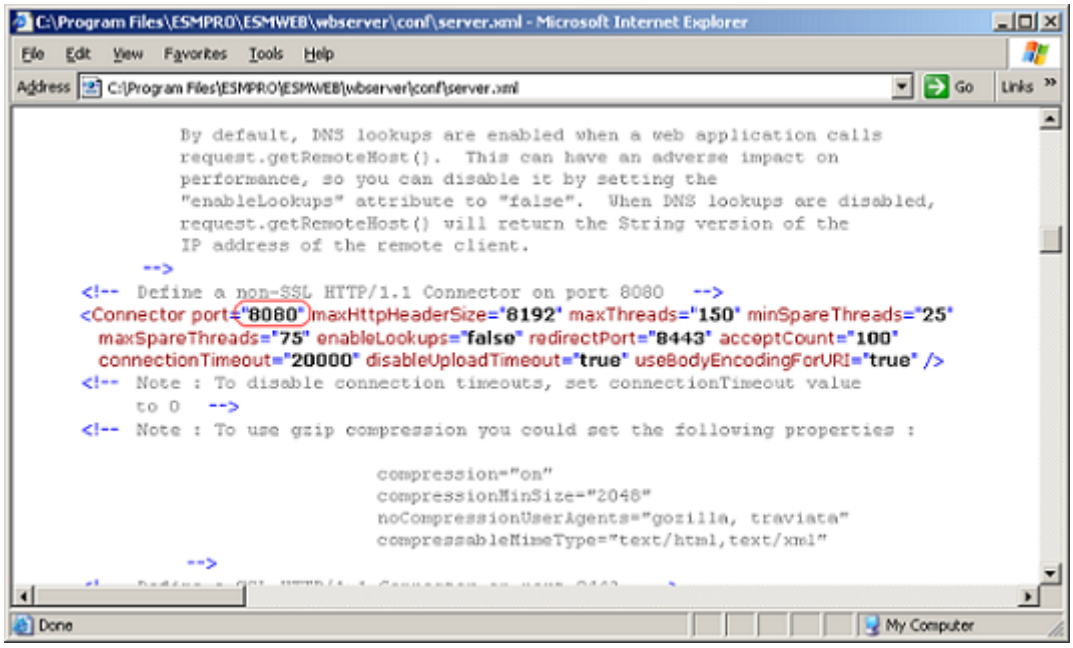
An example of address to access in th e HTTP connection port "8080".

1. **Stop the following two services.**
   - ESMPRO/SM Common Component
   - ESMPRO/SM Web Container



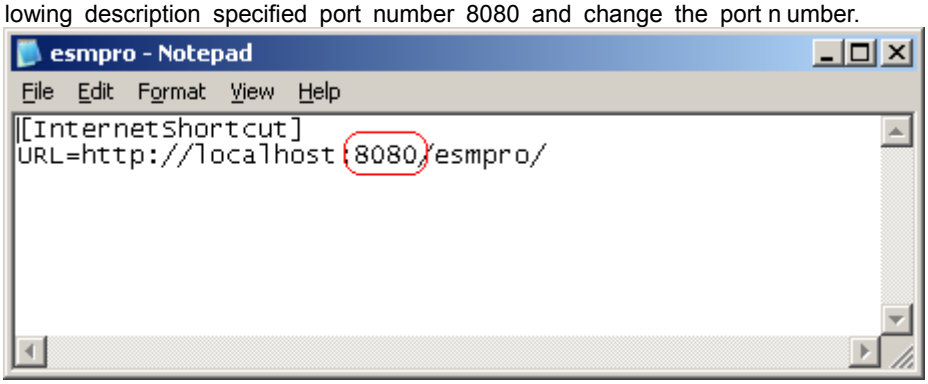
2. **Edit the port number in the "server.xml" setting file of ESMPRO/SM Web Container service.**

   The "server.xml" file is on the "NEC ESMPRO M anager installed folder"¥ESMWEB¥wbserver¥conf. In t his file, you search the following <Connector> description specified port n umber 8080 and change the port number.



3. **Edit shortcut file "esmpro".**

   The "esmpro" file is on the "NEC ESMPRO Manager installed folder"¥ESMWEB. In this file, you search the following description specified port number 8080 and change the port number.



4. **Start the following two services.**

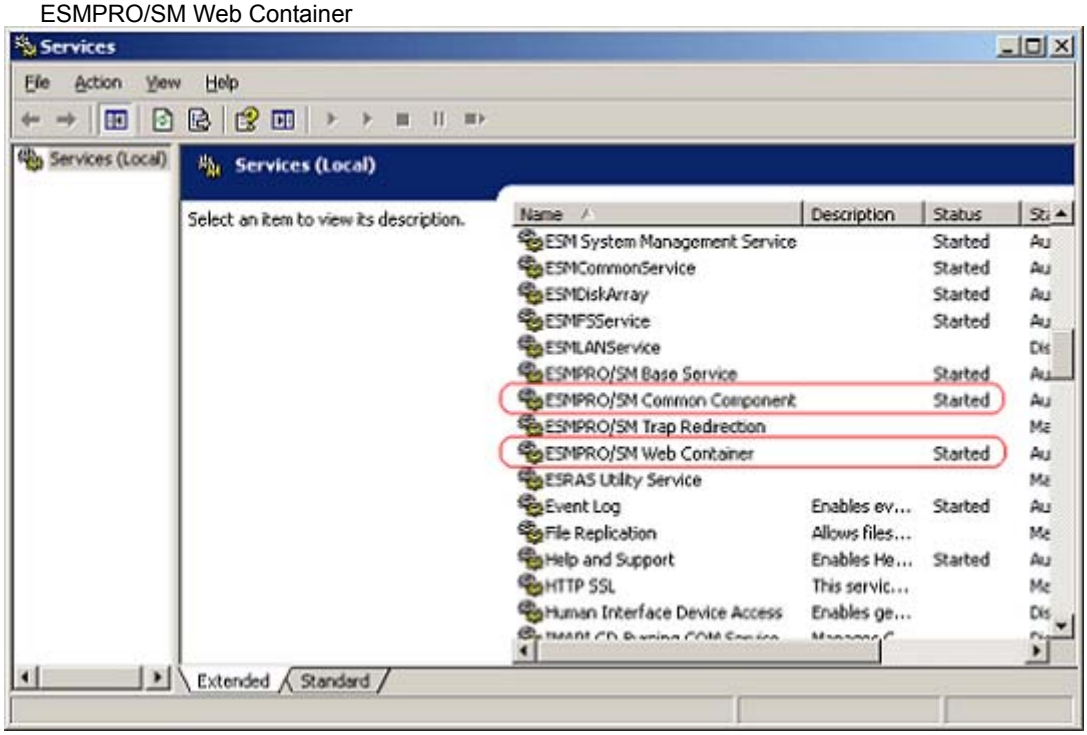
   - ESMPRO/SM Common Component
   - ESMPRO/SM Web Container

♦Coexistence with Tomcat

When NEC ESMPRO Manager and Tomcat are installed same computer, the application software installed later will not be running correctly.

In this case, you can avoid it by the following way.

1. **If the following two services have started, stop the services.**
   - ESMPRO/SM Common Component
   - ESMPRO/SM Web Container

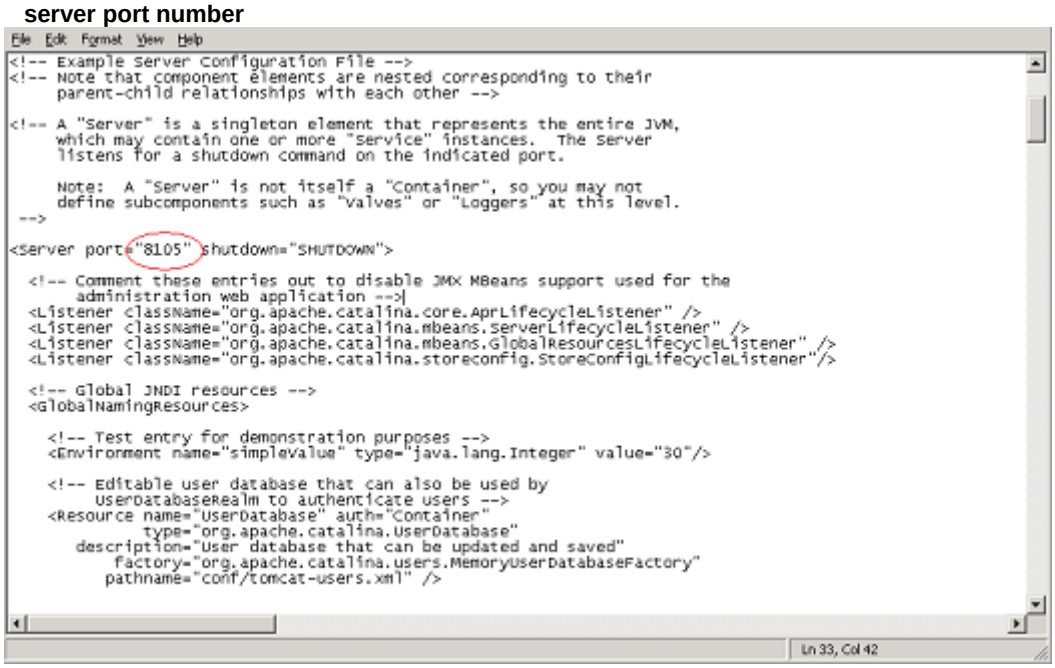


2. **If Tomcat service has started, stop the service.**

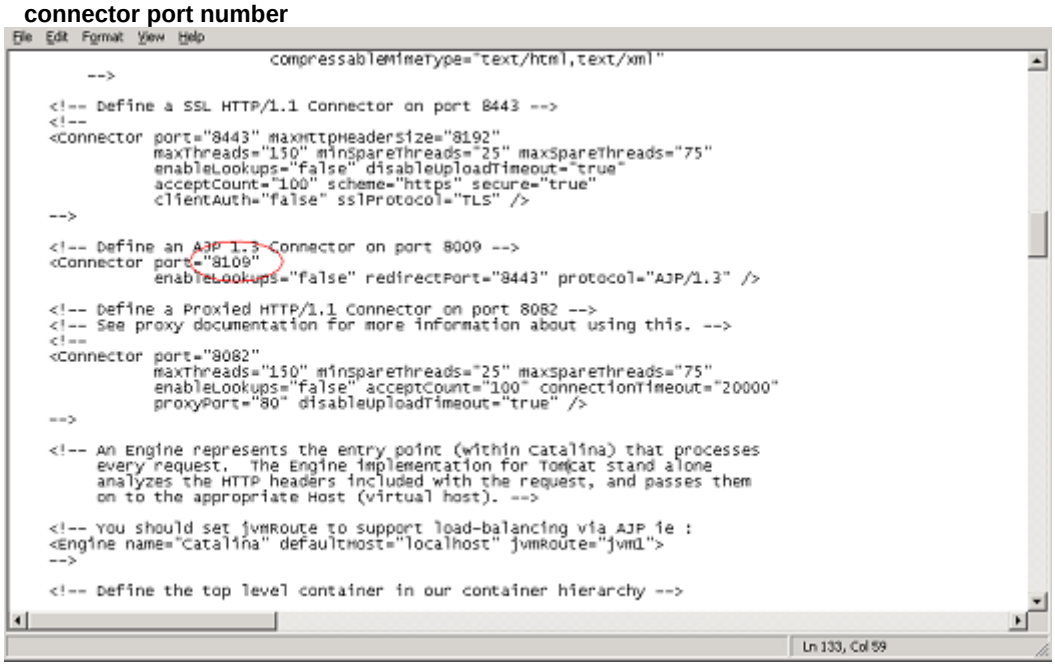
3. **Edit the server port number and connector port number in the "server.xml" setting file of ESMPRO/SM Web Container service.**

   The "server.xml" file is on the <The folder in which this product is installed>¥ESMWEB¥wbserver¥conf. In this file, you search the following description specified <Server port="8105" …> <Connector port = "8109" …> and change the port number to unused number.

- **server port number**



- **connector port number**



4. **Start the following two services.**
   - ESMPRO/SM Common Component
   - ESMPRO/SM Web Container

5. **Start Tomcat service.**

Check

- Specify the port numbers of NEC ESMPRO Manager and Tomcat not to overlap.
  If you change the port number of NEC ESMPRO Manager, see the preceding clause "Change the Port Number".
- When you use SSL communication on Tomcat or connect Tomcat with Apache, you may need to change another port number. See Tomcat's Document for detail.

♦Update installation from an older version of NEC ESMPRO Manager

If you perform update installation from the NEC ESMPRO Manager of less than version 5.0, the managed servers originally registered in the Operation Window will not be registered on the NEC ESMPRO Manager. To register the servers, perform auto-registration with this version of the NEC ESMPRO Manager.

Check

- When you perform update installation to the environment on which the NEC ESMPRO Manager under version 5.0 and the DianaScope Manager are installed, only the managed servers of the DianaScope Manager are registered until performing auto-registration.
- Servers not to be monitored, such as Ver. 4.1 or prior version of NEC ESMPRO Agent, and maps are not registered.
- The setting information that was set on NEC ESMPRO Manager Ver. 5.0 or prior will be inherited.

♦Access limitation for Web Client

When you use the NEC ESMPRO Manager from Web Client, login to the NEC ESMPRO Manager locally, then add the Web Client address from [Environment Setting] - [Access Limitation].

7. Uninstallation

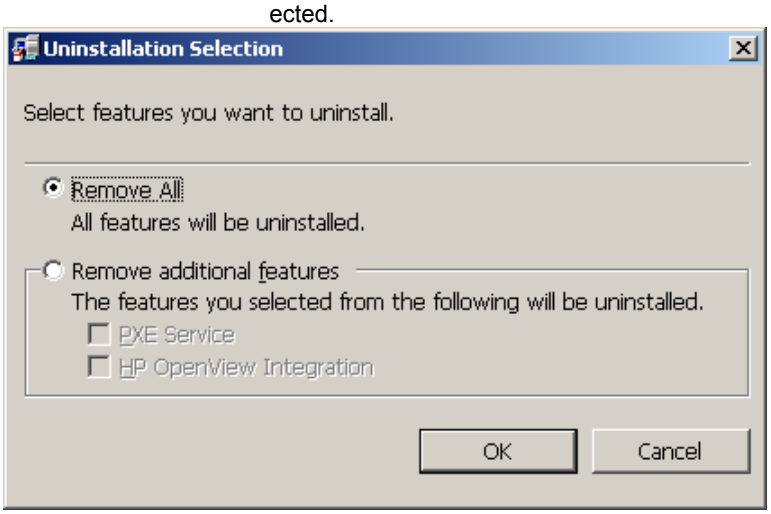
This page describes how to uninstall the NEC ESMPRO Manager.

7.1 Uninstallation procedure

Note

- Start uninstalling after the system starts completely.
- Uninstallation performed immediately after the system restarts may fail.
  If an error message appears, try again after waiting for a while.

1. **Logon as a user with administrative privilege.**
2. **Exit all running applications.**
3. **Perform uninstallation.**
   Start up [Programs and Features] (or [Add or Remove Programs]) from [Control Panel].
   Select NEC ESMPRO Manager from the list of the installed programs to remove it.
4. **Select features you want to remove.**
   Select the item to be uninstalled, and click [OK].
   Remove All : Removes NEC ESMPRO Manager and all added features.
   Remove additional features : Removes features you selected.
   Features that were not added are grayed out and cannot be selected.

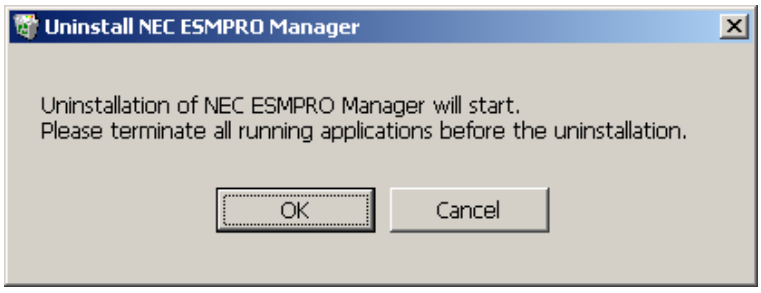


If no features are added, this dialog box is not displayed.

5. **Confirmation for uninstallation.**

Confirm that any applications related to NEC ESMPRO are not running, and click [OK].

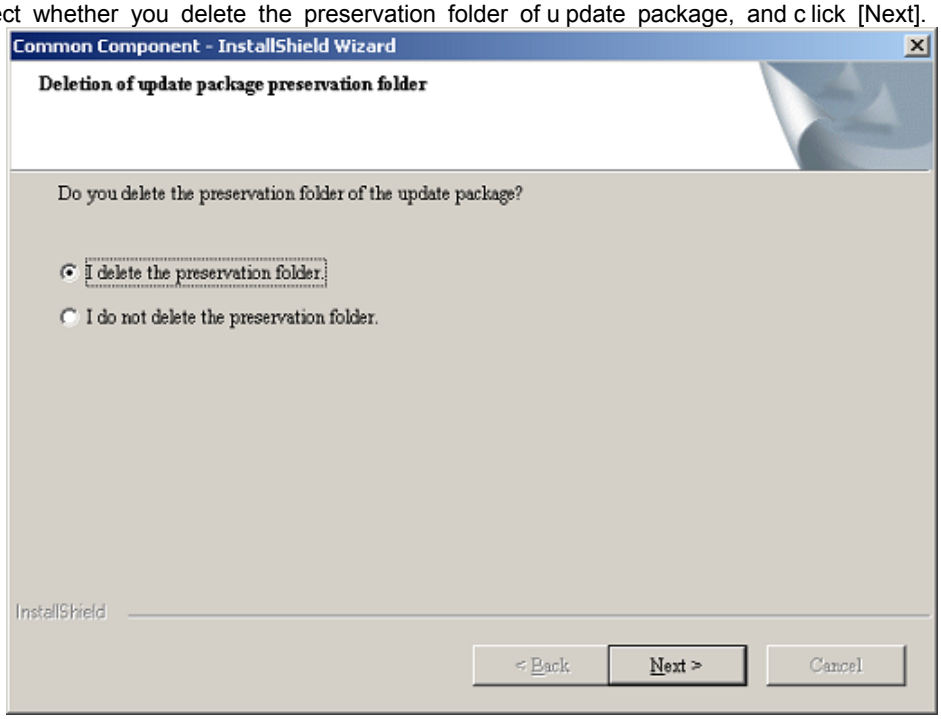
The selected features will be uninstalled.


Uninstall NEC ESMPRO Manager
Uninstallation of NEC ESMPRO Manager will start.
Please terminate all running applications before the uninstallation.
OK
Cancel

6. **Confirmation for deletion of the folder.**

(If there is no folder of update package, this dialog box is not displayed.)

Select whether you delete the preservation folder of update package, and click [Next].

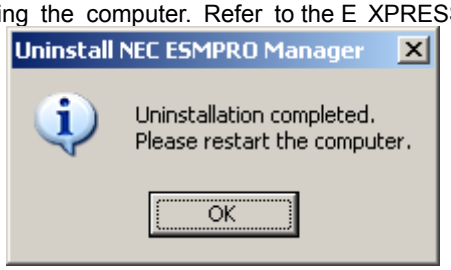

Common Component - InstallShield Wizard
Deletion of update package preservation folder
Do you delete the preservation folder of the update package?
I delete the preservation folder.
I do not delete the preservation folder.
InstallShield
< Back
Next >
Cancel

Wait for a while until the uninstallation completes. During the uninstallation, some uninstallation windows will appear.

7. **The uninstallation completes.**

Click [OK] and then restart the operating system (the system will not automatically restart.).

* If this computer is intended to be used in EXPRESSCLUSTER system, you need to do some extra work before restarting the computer. Refer to the EXPRESSCLUSTER document.



7.2 Notes on Uninstallation

♦Message after NEC ESMPRO Manager Uninstall

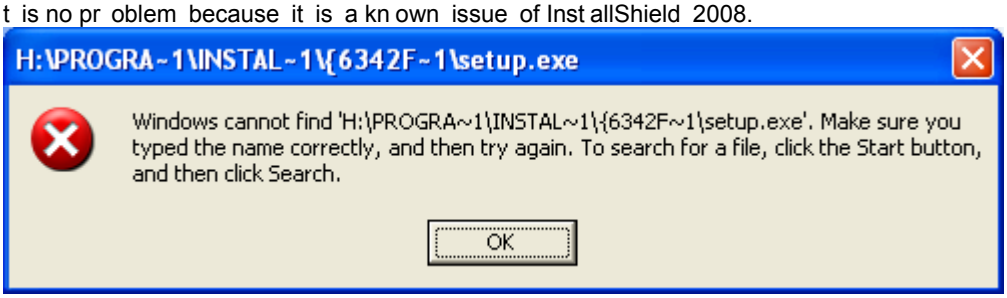
Windows Server 2008 R2 / Windows 7 uninstalling NEC ESMPRO Manager the message that "Windows Explorer has stopped working" might be displayed. However, uninstallation was normally completed. The system doesn't have the influence.

♦Program Compatibility Assistant dialog box

A message "This program might not have uninstalled correctly" may popup after uninstalling NEC ESMPRO Manager complete. In such a case, you can safely click [This program uninstalled correctly] or [Cancel] button to close the dialog because the uninstallation is done successfully.

♦Message at reactivation

The following message might be displayed at the time of the first system reboot after ESMPRO uninstall, but it is no problem because it is a known issue of InstallShield 2008.


H:\PROGRA~1\INSTAL~1\{6342F~1\setup.exe
Windows cannot find 'H:\PROGRA~1\INSTAL~1\{6342F~1\setup.exe'. Make sure you typed the name correctly, and then try again. To search for a file, click the Start button, and then click Search.
OK

♦Alarm category of HP OpenView Network Node Manager

If you uninstalled the HP OpenView Integration, "ESMPRO Alarms" remains in the alarm category of HP OpenView Network Node Manager. In such a case, delete it by hand.

8. Notes

Check the following points after installing the NEC ESMPRO Manager:

8.1 NEC ESMPRO Manager

♦Installation

- If you install the NEC ESMPRO Manager on Windows Server 2003 or Windows Server 2008 and later, do not delete user account "Administrator" from "Impersonate a client after authentication" of "Local Security Policy".
- NEC ESMPRO Manager cannot be downgraded to the older version. If you want to use the older version, uninstall the current version and then install new version.
  Note: All the registered information will be deleted as the result of the uninstalling.
- You should logout from the web browser that is login to the NEC ESMPRO Manager before the NEC ESMPRO Manager is upgraded. After the NEC ESMPRO is upgraded during login, some error may be displayed on any web browser. When the error is displayed, you should close web browser that is login to the NEC ESMPRO Manager and restart the following services.
  - ESMPRO/SM Web Container
  - ESMPRO/SM Common Component
- If installer displays either of the following message, execute the installation again.
  "It failed in the writing in a necessary file of the Common Component."
  "Close of the necessary file for Common Component failed."
- After NEC ESMPRO Manager is upgraded, NEC ESMPRO Manager on the web browser may display incorrectly.
  Take the following steps to avoid it.

  [Internet Explorer 8]

  1. Click the [Safety] menu.
  2. Select [Delete Browsing History].
  3. Select the checkbox for [Temporary Internet Files].
  4. Click the [Delete] button.

  [Internet Explorer 7]

  1. Click the [Tools] menu.
  2. Select [Delete Browsing History].
  3. Click the [Delete] files button.
  4. Click the [Yes] button in the confirmation window.
  5. Click the [Close] button.

[Firefox 3.5 / 3.6]

1. Click the [Tools] menu.
2. Select [Clear Recent History].
3. Select the [Details] button.
4. Select the [Cache] checkbox.
5. Click the [Clear Now] button.

♦Setting a Windows Firewall

If the Windows Firewall is enabled, communication of the NEC ESMPRO Manager with a Web client and a managed server will be interrupted and the system will not work correctly.

To use NEC ESMPRO Manager with the Windows Firewall enabled, open the required ports.

For ports used by NEC ESMPRO Manager, see "Appendix Port numbers / Protocols".

♦Use of two or more NEC ESMPRO Manager

A single managed server on that "Management Controller" management is effective can be controlled remotely by up to three Management PC. Follow these notes on the remote control.

- Use only one NEC ESMPRO Manager to set/execute the scheduled running function and remote batch function.
- While one NEC ESMPRO Manager is using the remote console function of a managed server, the other NEC ESMPRO Managers cannot use the managed server's remote console function.
- More than one NEC ESMPRO Manager cannot collect IPMI information from the same managed server concurrently.
- Do not use more than one NEC ESMPRO Manager PXE Service. Start the NEC ESMPRO Manager PXE Service on only one of Management PC on the same network.
- One EM card must be managed by one NEC ESMPRO Manager. And plural EM cards and CPU blades on the same chassis must be managed by one NEC ESMPRO Manager.

♦Power OFF, Power Cycle, Reset, and Dump

Since power control is provided by hardware regardless of the state of the managed server's operating system, the system may be damaged. Be careful of operation under power control.

♦Power OFF, Power Cycle, Reset with the BIOS Setup Utility active

If you use the managed server integrated BMC, do not execute the Power Off, Power Cycle or Reset while the BIOS Setup Utility is active on the managed server. Otherwise, the alert setting of BMC configuration will be disabled.

♦IPMI information collection

While a managed server is tuned OFF, some records of management controller in formation and FRU (Field R eplaceable Unit) information cannot be r ead in.

The current st atus of some sensors cannot be rea d in either while the managed server is turn ed OFF.

♦Restriction on concurrent connection to the Remote Console

When a single NEC ESMPRO Ma nager is o perating the re mote console of a managed server, another Manag er cannot execute the remo te console function for the managed server. A managed server can transmi t redire ction data to only a single NEC ESMPRO Manager.

♦Remote console before OS boot or during DOS program running

If a graphic screen is displayed on a managed server, data cannot be displayed correctly on the C UI remote console. The CUI remote c onsole screen is disp layed only when the managed server displays a text scre en.

♦In case of interruption to Remote Console

After the BMC o n a managed server establishes communication via WAN/Direct connection, communication wit h the DianaScope Agent or NEC ESMPRO Agent Extension may ends up with a t imeout or the remote conso le may not be updated any more. This is beca use priority is given to communication with the BM C.

To restart the remote co nsole, use the [R estart Redirection] button on the NEC ES MPRO Manager.

♦Display of a special character

The CUI remo te console screen is not displayed correctly in the fo llowing cases :

- **Special character**

  Ruled lines, arrows correctly and en-size left arrows cannot be displayed.
- **User definition font**

  User definition font cann ot be displayed.

♦In case of display of illegally keyed data on the Remote Console

If you use the manag ed server in tegrated BMC, unintentionally keyed data may appear on a managed server in the fo llowing conditions when the NEC ESMPRO Manager issues a command to the BMC:

– WAN/Direct connection.

– The SAC screen at Windows boot or t he CUI remote console under Linux is accessed.

♦In case of key-in failure on the Remote Console

- During DOS boot or access to the removable media immediately after the managed server's po wer switch is turned ON, data ca nnot be keyed in from th e remote console or th e keyed data display may be delay ed.
- Remote Console is reali zed by using the Serial Over LAN (SOL) function of the IPMI confo rmity and the Serial Redirection function of BIOS.

  Data cannot be keyed in from the Remote Console when the firmware(BIOS and so o n) or the software r equires the k ey code that VT100 terminal emulator (the hyper-terminal and so o n) can't control.

  Refer to the document of ea ch firmware or software for the d etails.

♦RAID EzAssist Configuration Utility

To operate RAID EzAssist for a SOL-i ncompatible managed server from the CUI re mote console via LAN, set the item " Console Redirection" to "Disable" on the BIOS Setup Ut ility screen, re boot the s ystem, and th en boo t the RAID Ez Assist Configuration Utility.

♦Power management

- If you set the value o n the managed server which does not support power management, you cannot put back the v alue to "u nsetting". Set "zero" t o each value, it is acce pted as "uns etting".
- The electric p ower value might not n ecessarily reach even the v alue of Po wer Cap value.

  The electric power control lowers the power consumption of the s ystem by lowering the fr equency of CPU / Memory.

  When CPU / Memory Throttling value reaches 100%, the electric power value doesn't fall an y more.

♦CPU blade auto registration

When "Check Connection" of "CPU b lade auto registration" was failed. You can execute "Check Connection" o n "Server Pr operties" - "Connection Setting".

If a specified IP address is set from a CPU blade to another CPU blade during "CPU blade auto registration" process (ex. when you replace CPU blade and execut e "CPU b lade auto registration"), NEC ESMPRO Mana ger may not be able to connect the CPU blade beca use old in formation remains in the ARP table on the ma nager server. Wait for a fe w minutes and try the " Check Connection".

♦Coexistence of NEC ESMPRO Manager with DianaScope Agent or NEC ESMPRO Agent Extension on the same server

If the managed server is installed Advanced Remote M anagement Card or E XPRESSSCOPE Engine series (th e BMC uses exclusive LAN port (m anagement LAN port)), NEC ESM PRO Manager can m anage the server its elf installed. It th e managed server is in stalled BMC that u ses the standard LAN port, N EC ESMPRO Manage r cannot manage the ser ver itself installed. It is possib le only to i nstall NEC ESM PRO Manager and Di anaSco pe Agent or NEC ESMPRO Agent Extension on the same server. But the communication with BMC on the se rver is p revented by local loopback function of OS and the BMC cannot receive any p ackets from the NEC E SMPRO Manager.

♦EM Card registration

- When you resister the EM Card, you need to set valid on SNMP management and "Management Controller" management each other.
- If the connection is failed at "Auto Registration" or "Check Connection", it is not recognized as EM Card because both management is invalid. In this case, set correct connection setting and execute "Check Connection" again.
- If you register the EM Card from Operation Window, the EM Card is registered invalid status on NEC ESMPRO Manager. So you need to execute "Check Connection" to manage it.

♦Remote Control

When all the following conditions are satisfied, remote control cannot be executed from NEC ESMPRO Manager.

- NEC ESMPRO Manager is installed on the server whose operating system is Windows since Windows Vista or Windows Server 2008.
- The managed server has either following BMC.
  - BMC uses standard LAN port
  - Advanced Remote Management Card or equivalent BMC
- The managed server has been power off.

  If you manage the server satisfied above condition, install NEC ESMPRO Manager on the server whose operating system is the older version of Windows Vista or Windows Server 2008, for example Windows XP.

♦Display of the monitoring window

If you exit and restart the monitoring window of the NEC ESMPRO Manager with the Alert Viewer started, the displayed AlertViewer window is rewritten and the window may not be properly displayed.
In such a case, exit the monitoring window and the AlertViewer once, and then restart them.

♦Versions of NEC ESMPRO Manager and NEC ESMPRO Agent

If a version of NEC ESMPRO Manager is older than that of the NEC ESMPRO Agent, a problem may occur such as the configuration information cannot be displayed, or received alerts are not correctly displayed, and so forth. Update NEC ESMPRO Manager to the version equal to or later than that of the NEC ESMPRO Agent.

♦Coexistence of NEC ESMPRO Manager with other vendor's SNMP management application]

When another vendor's SNMP management application which receives an SNMP trap is used along with NEC ESMPRO Manager, one of them may fail to receive the SNMP trap due to a conflict between the two applications. Through the following procedures, the situation can be avoided.

[Work Around 1]

If the other vendor's SNMP management application supports the trap reception function of standard SNMP Trap Service, you can change [Method of receiving an SNMP Trap] to [Use SNMP Trap Service] on the AlertViewer to avoid this problem.

The SNMP Trap Service is installed together with the SNMP Service. However, it does not start by default. Start [Services] from [Control Panel] to start up the SNMP Trap Service (It is useful that you set [Automatic] for [Startup type].).

[Work Around 2]

By utilizing the "TCP/IP report to Manager" function of NEC ESMPRO Agent, the alert reception function of NEC ESMPRO Manager operates normally.

TCP/IP report to Manager : Transfers an alert from a server to the NEC ESMPRO Manager using an original protocol on TCP/IP.

Note that the operability of the SNMP Trap reception function on the other vendor's SNMP management application cannot be guaranteed.

♦Usage of DHCP

As NEC ESMPRO Manager manages the system according to its IP Address, do not use a DHCP which assigns IP address dynamically on an operating system on which NEC ESMPRO Manager and NEC ESMPRO Agent are installed.

♦Setting an SNMP trap destination

When you install NEC ESMPRO Manager and NEC ESMPRO Agent on the same computer, specify the IP address assigned to the network card or the host name as the SNMP trap destination for the computer, instead of the loop back address 127.0.0.1. If you specify 127.0.0.1, "unknown server" may be displayed on the Alert Viewer.

On the other hand, you may need to specify 127.0.0.1 for a computer not connected to the network. For more information, see "Settings on Standalone Environments Without Network Connections" below.

If the following is displayed on the AlertViewer even when you have specified as above,

Component : {unknown server}
Address : 127.0.0.1

change the IP address to 127.0.0.1 on the properties of the server by selecting [Connection Setting] from [Server setting].

♦Settings on standalone environments without network connections

When you install the NEC ESMPRO Manager and the NEC ESMPRO Agent on a machine together, if the machine is not connected to the network, take the following steps to monitor the machine itself.

- Specify 127.0.0.1 for Start Address and End Address as a range for the Auto Registration.
- Specify 127.0.0.1 for the SNMP trap destination.

If you have already registered server, execute Auto Registration after deleting it.

♦NEC ESMPRO User Group

Since security for the NEC ESMPRO Manager is managed by the NEC ESMPRO User Group (by default, Administrators), the NEC ESMPRO Manager never starts without accessing this group.

Note the following:

- Do not delete/change the NEC ESMPRO User Group after installing the NEC ESMPRO Manager.
- When the NEC ESMPRO User Group is registered as a global group member, it is necessary to start the Domain Controller before the Manager machine boots.

♦To upgrade your operating system

Otherwise uninstall the NEC ESMPRO Manager first and upgrade the operating system. To upgrade the operating system to other than the following operating system, uninstall the NEC ESMPRO Manager first and upgrade the operating system.

- Windows Server 2003, Windows Server 2003 R2
- Windows Vista
- Windows Server 2008

♦Display of the Information of server state/constitution

In case that NEC ESMPRO Manager has been updated from ver.5.23 and below, The display of the selected item on the [Information of server state/constitution] may take long time with the hardware constitution of the managed server.

Perform the followings in this case:

- Change the 'Update Interval' value of 'Automatically update display' setting from 5 seconds (default value) to 60 seconds.

  The changing of the automatic update interval by JavaScript will reduce the load of NEC ESMPRO Agent on the managed server, and so allows NEC ESMPRO Manager to display the DataViewer quickly.

  <settings>

  [Environment setting] – [Option Setting] – [Automatically update display] – [Update Interval]

♦Display of the network speed

- When you monitor Linux servers, Speed will not be displayed on the Network General view of the [Information of server state]. In such a case, check it on the monitored server.
- When you monitor Windows servers which have network interfaces of which speeds are 10Gbps or over, Speed may not be displayed correctly on the Network General view of the [Information of server state]. In such a case, check it on the monitored servers.
- When you monitor Windows Server 2008 servers which have network interfaces with which a cable is not connected, an incorrect value (4,294 Mbps) may be displayed for the Speed on the Network General view of the [Information of server state].

♦Display of the network status

When you monitor a server with Windows Vista installed, the message "Dormant" appears for Status on the Network General view of the [Information of server state] even if the network properly works. In such a case, check the network status on the monitored server.

♦Display of the teamed network interfaces

If network interfaces are teamed on a server with Windows Vista / Windows 7 /Windows Server 2008 / Windows Server 2008 R2 installed, the network information may not be properly displayed on the [Information of server state]. Check it on the monitored server

♦Coexistence of NEC ESMPRO Manager with HP OpenView Network Node Manager (NNM)]

- To install NNM on the environment where the NEC ESMPRO Manager has been installed, take the following steps before installing NNM:

  1. Select [Use SNMP Trap Service] from [Method of receiving SNMP Trap] displayed by clicking [SNMP Trap Setting] of the AlertViewer.
     When the message "Changes will take effect after the management computer has been restarted." appears, exit the AlertViewer and then take the following steps without shutting down and restarting the system:
  2. Exit all applications related to NEC ESMPRO
  3. Stop "NVBase System Service" (and other dependent services) by selecting [Administrative Tools] - [Services] on the operating system.
     After the above, install NNM and restart the computer.

- To install the NEC ESMPRO Manager on the environment where NNM has been installed, restart the computer after the installation of the NEC ESMPRO Manager completes.
  Then, take the following steps:
  Select [Use SNMP Trap Service] from [Method of receiving SNMP Trap] displayed by clicking [SNMP Trap Setting] of the AlertViewer.

  After the above, restart the computer

♦Power saving mode of the operating system

- When a computer on which NEC ESMPRO Manager is installed goes into a power saving mode, all features of NEC ESMPRO Manager (such as alert reception, server status monitoring and automatic statistical data collection) stop. It is recommended that you disable the power saving mode.
- When a monitored server with the Wake On Directed Packet option enabled for the network adapter setting goes into the power saving mode, the server is powered on immediately by the server status monitoring feature of NEC ESMPRO Manager which regularly sends packets to the server. In such a case, disable the Wake On Directed Packet option.

♦System event log when installing NEC ESMPRO Manager on Windows Vista

When installing NEC ESMPRO Manager on Windows Vista, the following event may be reported on Windows Logs (System). This event is not a problem.

Source : Windows Defender
Event ID : 3004
Type : Warning
Description : Windows Defender Real-Time Protection agent has detected changes. Microsoft recommends you analyze the software that made these changes for potential risks. You can use information about how these programs operate to choose whether to allow them to run or remove them from your computer. Allow changes only if you trust the program or the software publisher. Windows Defender can't undo changes that you allow.

♦Application event log when installing NEC ESMPRO Manager

When installing NEC ESMPRO Manager, the following event will be reported on Application event log. This does not cause a problem with security, so you do not need to do anything for it.

Source : WinMgmt
Event ID : 5603
Type : Warning
Description : A provider, ServerManager WMI Support eXtension, has been registered in the WMI namespace, Root¥NEC¥ESMPRO¥SM¥WSX, but did not specify the HostingModel property. This provider will be run using the LocalSystem account. This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests. Ensure that provider has been reviewed for security behavior and update the Hosting Model property of the provider registration to an account with the least privileges possible for the required functionality.

In addition to the above, there is ESMPROProvider as a provider name.
Source and Description might somewhat vary depending on an operating system.

♦Replacing a managed server

To replace a managed server without changing its server name or its IP address, execute Check Connection on the [Connection Setting] view of NEC ESMPRO Manager after replacing it.

If you do not, a new server is not recognized and the server status or the configuration information is not correctly displayed.

♦Auto Registration

- Even if managed servers that are registered only to the Operation Window are out of the search range for Auto Registration, they are listed in the Auto Registration list and registered to the NEC ESMPRO Manager as managed servers.
- If any server that is not supported, such as NEC ESMPRO Agent Ver.4.1 or prior, is included in the search range for Auto Registration, the server is not registered to NEC ESMPRO Manager. However, it is registered to the Operation Window.
- After you register a CPU blade managed via only SNMP to create the chassis information, to register another CPU blade on the same chassis with the management controller enabled, delete the previously registered CPU blade managed via SNMP and register it again.
- Do not perform other operations or move to another window during Auto Registration or Check Connection.
- If a server for which Check Connection is not performed is included in the search range for Auto Registration, be sure to execute Check Connection for it before Auto Registration.
- After auto-discovery is finished from Web browser, the server icon is also put on the Operation Window. Change the icon location manually if you feel the location is not appropriate.

♦Changing Status Polling Interval

The default value for SNMP status polling interval is 1 minute.

To change it, change the value set in [Server Status Polling Interval (min)] on the server icon displayed on the Operation Window.

♦Recovery from system error

If a system error occurs, follow the instruction displayed on the window.

If no instruction is displayed, restart the browser.

♦If communication with a monitored server becomes disabled

If communication with a monitored server becomes disabled due to server down or network problem during display of the status of the server, the server icon of the group or chassis shows unknown status. In this case, the status color of the configuration information tree item may not indicate the latest status. Click the server icon from the group or chassis to display the latest information.

♦Changing the configuration of the servers

If you change the configuration of the servers (such as attaching or removing HDDs) with the [Information of server state/constitution] tree displayed, the changes will not be reflected to the [Information of server state/constitution] tree. After changing the configuration, click the target server icon displayed in the [Group] or [Chassis] tree to update the [Information of server state/constitution] tree.

♦Display of the Information of EM Card state/constitution

If you remove and then mount a CPU blade during display of the "Information of EM Card state/constitution" navigation tree, select the EM card from the Group/Chassis tree to update the information.

♦If the page cannot be displayed on Web browser

When you start NEC ESMPRO Manager or application that is installed after NEC ESMPRO Manager installation, the Web browser may displays "The page cannot be displayed." or "The server cannot be found." and the page cannot be displayed. In this case, the port number of NEC ESMPRO Manager and other application may be overlapped. See the procedure on "Coexistence with Tomcat" in "6.1 After Installation".

♦RAID operation

See the User's Guide of Universal RAID Utility (after Ver.2.1) installed on the managed server for notes about the operation of RAID system with [Information of server state] navigation tree.

♦Alert driven status control function

The alert driven status control function which is supplied as a Windows application can not be used on the Web browser interface. If the function is enabled, there is the possibility that you misunderstand the status of the managed servers, because the server status color on the Web browser of the client side changes by starting, operating, or exiting the AlertViewer (Windows application) on the Web server side. It is recommended that you disable the alert driven status control function.

8.2 NEC ExpressUpdate

♦Installation of NEC ExpressUpdate Agent

To use the function of 'Installing NEC ExpressUpdate Agent', following configurations are necessary.

*1 Change following configurations with the user belongs to the Administrators group.

*2 See" Appendix Port numbers / Protocols" for network ports and protocols which this function uses.

- **Windows XP**
  1) Configure Windows Firewall Configuration.
     - [Control Panel] - [Security Center] - [Windows Firewall] Select [General] tab and uncheck [Don't allow exceptions].
     - Select [Exceptions] tab and check [File and Printer Sharing].
  2) Configure File Sharing
     - [Control Panel] - [Appearance and Themes] - [older Options] Select [View] tab and uncheck [Use simple file sharing].
- **Windows Vista**
  1) Configure Windows Firewall
     - [Control Panel] - [Security] - [Windows Firewall] - [Allow a program through Windows Firewall]-Select [Exceptions] tab and check [File and Printer Sharing].
  2) Configure File Sharing.
     - [Control Panel] - [Appearance and Personalization] - [Folder Options]-Select [View] tab and uncheck [Use Sharing Wizard].
  3) Configure UAC.
     - [Control Panel] - [User Accounts] - [User Accounts] - [Turn User Account Control on or off]-uncheck [Use User Account Control(UAC) to help protect your computer]
- **Windows 7**
  1) Configure Windows Firewall.
     - [Control Panel] - [System and Security] - [Windows Firewall] - [Advanced Settings] - [Inbound Rules]-Select [File and Printer Sharing] and execute [Enable Rule].
  2) Configure Configuration.
     - [Control Panel] - [User Account and Family Safety] - [User Accounts] - [Change User Account Control settings]-Select [Never notify].

- **Windows Server 2003 / Windows Server 2003 R2**

  1) Configure Windows Firewall.
     - [Control Panel] - [Windows Firewall]-Select [General] tab and uncheck [Don't allow exceptions].
     - Select [Exceptions] tab and check [File and Printer Sharing].

- **Windows Server 2008**

  1) Configure Windows Firewall.
     - [Control Panel] - [Security] - [Windows Firewall] - [Allow a program through Windows Firewall]-Select [Exceptions] tab and check [File and Printer Sharing].
  2) Configure UAC Configuration.
     - [Control Panel] - [User Accounts] - [User Accounts] - [Turn User Account Control on or off]-uncheck [Use User Account Control(UAC) to help protect your computer].

- **Windows Server 2008 R2**

  1) Configure Windows Firewall.
     - [Control Panel] - [System and Security] - [Windows Firewall] - [Advanced Settings] - [Inbound Rules]-Select [File and Printer Sharing] and execute [Enable Rule].
  2) Configure UAC.
     - [Control Panel] - [User Accounts] - [User Accounts] - [Change User Account Control settings]-Select [Never notify].

- **Windows Server 2008 R2 Core**

  1) Configure Windows Firewall.
     1-1) Make up the remote PC to change 'Windows Server 2008 R2's Windows Firewall settings' remotely.
     1-2) Input below command on the managed server to enable remote configuration of the Windows Firewall.
          netsh advfirewall set currentprofile settings remotemanagement enable
     1-3) Input [mmc] at [Run...] window on remote PC.
     1-4) File-Add/Remove Snap-in...-Add [Windows Firewall with Advanced Security].
          In the Select Computer Window, input the host name of the managed server.
          You can get host name of the managed server with [hostname] command.
     1-5) [Inbound Rules]-Select [File and Printer Sharing] and execute [Enable Rule].

- **Linux OS**

  *1 See document of the distribution for configuration.

  1) Configure Firewall.
     - Enable remote ssh login.
  2) Configure SSH.
     - Enable root login with SSH.

       Typically, open the sshd configuration file [/etc/sshd/sshd_config] and set the 'PermitRootLogin' option to 'yes'.

8.3 NEC ESMPRO Manager PXE Service

♦Installation

- NEC ESMPRO Manage r PXE Se rvice Installer cannot upgrade from NEC ESMPRO Manage r PXE Se rvice under Ver.1.01.01. Uninstall the ol der version, and then install new version.

  Note: All the r egistered information will be deleted as the result of the uninstalling.
- NEC ESMPRO Manager PXE Se rvice Installer cannot downgrade to the older version. If you want to use the older version, uninstall the curr ent version and then install older version.

  Note: All the r egistered information will be deleted as the result of the uninstalling.

♦Configuration

See "2.2.2.1 Notes of Conf iguration with NEC ESMPR O Manager PXE Ser vice" in "NEC ESMPRO Manager V er.5 Setup Gu ide."

♦Other PXE services and software with the PXE Service

Before starting the NEC ESMPRO Manager PXE Service, stop other PXE services and software having the P XE service function in the network. If you use other PXE services and software having the PXE service functi on, stop the NEC ESMPRO Mana ger PXE se rvice and then start them. This procedure is necessary to start t he service that you want to use.

<How to stop/start NEC DeploymentManager that has PXE server function>

Click "Run" from [start] of W indows. Enter the c ommand as following example. It sho ws case that the i nstalled folder of NEC DeploymentManager is "C:¥Program Files¥NEC¥DeploymentManager".

To stop the service : "C:¥Program Files¥NEC¥DeploymentManager¥svcctrl" -stop

To start up the service : "C:¥Program Files¥NEC¥DeploymentManager¥svcctrl" -start

<How to stop/start Remote Install service>

To stop the service: Stop 3 services. Click [run] from [start] on Windows. Execute following each command:

“net stop BINLSVC”

” net stop TFTPD”

”net stop Groveler”

To start up the service : Perform the following procedure:

1. Click［control Panel］–［asministrative tool］–［Active Dir ectory user and computer］from [start] on Windows.
2. Find "Remote Install" server computer in the［Active Directory user and computer］snap in.
3. Click the s erver computer and them c lick ［Property］.
4. Click [Check server] on th e［Remote install］tab.
5. Follow the instruction of the wizard.

♦The end of the network-boot procedure of NEC ESMPRO Manager PXE Service

Do not operate the destination server until network-boot procedure of NEC ESMPRO Manager PXE Service completes. When you have some operation before that, the NEC ESMPRO Manager PXE Service cannot be stopped from the NEC ESMPRO Manager.

For completion of the network boot, see "2.2.2.4 How to confirm the status of the network-boot procedure by NEC ESMPRO Manager PXE Service" in "NEC ESMPRO Manager Ver.5 Setup Guide".

♦Setting a Windows Firewall

If the Windows Firewall is enabled on the management PC, NEC ESMPRO Manager PXE Service may not be executed BMC configuration.

In such a case, open the following ports on the management PC:

[Target ports]

Name (Can be changed)	Port number	Protocol
An arbitrary name	67	UDP
An arbitrary name	69	UDP
An arbitrary name	4011	UDP
An arbitrary name	31200	UDP

8.4 Managed Servers

♦Setting a Windows Firewall

If the Windows Firewall is enabled, communication with the management machine will be interrupted and the system will not work correctly. To use NEC ESMPRO Manager with the Windows Firewall enabled, open the required ports.

For ports used by NEC ESMPRO Manager, see "Appendix Port numbers / Protocols"

♦Support for SOL

The SOL (Serial over LAN) system implements a CUI remote console via LAN by the following method: the BMC gets redirection data that has been output to the serial port 2 by System BIOS or console–less OS and transmits the data via the LAN. If the remote console has been set in the BMC configuration information, the serial port 2 (COM2) cannot be used for connecting another device such as UPS because the BMC occupies the serial port 2.

See "Appendix C Managed Components Summary" in "NEC ESMPRO Manager Ver.5 Setup Guide" to confirm the managed server supports SOL.

The remote console of Linux or SAC (Special Administration Console) of Windows Server 2003 can be used when the managed server support SOL. However, there are the following notes:

- Use of serial port 2 is restricted. See "Notes on Managed Servers and Network Devices".

There are the following notes in the managed server which does not support SOL:

- Do not attempt to boot Windows or Linux on the managed server when you use Remote Control function with utility boot mode via LAN connection. Booting of Windows or Linux may result in a failure.
- To operate RAID EzAssist for a SOL–incompatible managed server from the CUI remote console via LAN, set the item [Console Redirection] to [Disable] on the BIOS Setup Utility screen, reboot the system, and then boot the RAID EzAssist Configuration Utility.
- The remote console by the redirection function of Linux and the remote console of SAC (Special Administration Console) of Windows Server 2003 cannot be used via LAN.

♦Power control with the BIOS Setup Utility Active

If you use the managed server integrated BMC, do not control the power supply while the BIOS Setup Utility is active on the managed server. Otherwise, the alert setting of BMC configuration will be isabled.

♦CUI Remote Console of DOS

To execute the CUI remote console function of the DOS screen, select [Server]- [Console Redirection]and change [ACPI Redirection] to [Disable] on the BIOS Setup Utility screen of the managed server if [ACPI Redirection] exists on the [Console Redirection].

♦CUI Remote Console after Windows boot

- If the managed server does not support SOL, Remote Console of Windows Server 2003 Special Administration Console cannot be executed via LAN.
- To execute the CUI remote console function of the SAC screen after Windows boot, select [Server]-[Console Redirection] and change [ACPI Redirection] to [Enable] on the BIOS Setup Utility screen of the managed server. When [ACPI Redirection] is set to [Enable] on the BIOS Setup Utility screen, the CUI remote console function cannot be executed after POST.
  If [ACPI Redirection] does not exist on the [Console Redirection] menu, confirm that [Console Redirection after POST] is enabled.

♦Shutdown OS

When the following operation is performed on the managed server running Windows Server 2008 or later, the cancellation dialog box may not be displayed.

- OS shutdown by NEC ESMPRO Manager.
- OS shutdown by scheduled running function.

♦Shutdown OS during DC-OFF state by scheduled running

When [Agent Setting] - [Shut down OS after DC-ON during Scheduled Running Halt] on NEC ESMPRO Manager is enabled, the DianaScope Agent or NEC ESMPRO Agent Extension shutdowns OS if the managed server is powered up during the down period (DC OFF state time by scheduled running).
Only if the managed server is powered up from NEC ESMPRO Manager, DianaScope Agent or NEC ESMPRO Agent Extension does not shutdown OS. However, in case that any error is occurred during booting, DianaScope Agent or NEC ESMPRO Agent Extension may shutdown OS even though power up by NEC ESMPRO Manager.

8.5 BMC Configuration

♦BMC Configuration tool

Among the BMC configuration information tools there are some tools which cannot be used to setup NEC ESMPRO Manager.

- NEC MWA Agent cannot be used.
- If NEC MWA is stored in the EXPRESSBUILDER DVD-ROM, [A setup of a system management] stored in the same EXPRESSBUILDER DVD-ROM cannot be used.
- The Console-less function of the EXPRESSBUILDER can not be used when NEC MWA is stored in the same EXPRESSBUILDER DVD-ROM.

♦In case of exchange of Management PC

If a Management PC as an alert receiver has been exchanged, register the managed server's BMC configuration information again even when the IP address of the Management PC remains unchanged. Otherwise, the BMC may fail to recognize the alert receiver.

♦Function "Obtain an IP Address automatically (DHCP)"

The managed server included the BMC that uses a Management LAN port supports the function "Obtain an IP Address automatically (DHCP)".

1. Following version of NEC ESMPRO Manager modules supports the setting of the function.

Managed server	DianaScope
The managed server that integrates EXPRESSSCOPE Engine series. DianaScope Manager Ver.1.07.01 or later	DianaScope Manager Ver.1.07.01 or later
	DianaScope PXE Service Ver.1.02.00 or later
	DianaScope Agent Ver.2.03.05 or later
	DianaScope Configuration Ver.1.02 or later
The managed server installed Advanced Remote Management Card or ft Remote Management Card.	DianaScope Manager Ver.1.11.00 or later
	DianaScope PXE Service Ver.1.03.00 or later *1
	DianaScope Agent Ver.2.06.00 or later
	DianaScope Configuration Ver.1.02 or later

*1 Not Support the managed server installed ft Remote Management Card.

When you use the module that does not support the setting of the function "Obtain an IP Address automatically (DHCP)" for the managed server that supports the function, note followings :

- If DianaScope Agent does not support the setting of the function, the DianaScope Agent always set [disable] for the function when it registers the BMC configuration. The DianaScope Agent also set [disable] when it writes the BMC configuration information file.
- If DianaScope Configuration does not support the setting of the function, the DianaScope Configuration always set [disable] for the function when it writes the BMC configuration information file.
- If [System Management] tool on EXPRESSBUILDER does not support the setting of the function, the tool always set [disable] for the function when it registers the BMC configuration. The tool also set [disable] when it writes the BMC configuration information file.

- If remote console feature of EXPRESSBUILDER does not support the setting of the function, the tool always set "disable" for the function when it registers the BMC configuration.
- If NEC ESMPRO Manager does not support the setting of the function, the NEC ESMPRO Manager cannot set disable for the function nor change IP address when DianaScope Agent support the setting of the function and the function has been set enable.

2. Advanced Remote Management Card and ft Remote Management Card

   If the managed server has been installed Advanced Remote Management Card or ft Remote Management Card, the BMC may not immediately obtain the IP address after NEC ESMPRO Manager PXE Service configures the BMC to obtain the IP address by the DHCP. Turn the managed server AC-OFF and then AC-ON because the BMC try to obtain the IP address whenever the managed server is turned AC-ON.

♦Port that BMC uses

In case that Linux on the managed server uses port 623, NEC ESMPRO Manager cannot communicate with the BMC that uses standard LAN port.

Perform following settings:

1. Add the following entries in services files (/etc/services) to reserve port 623.

```
asf-rmcp 623/tcp ASF Remote Management and Control Protocol
asf-rmcp 623/udp ASF Remote Management and Control Protocol
```

2. Reboot the OS.

♦Initialization of the BMC Configuration Information setting]

When you set［Default value］on the BMC Configuration Information with DianaScope Agent or NEC ESMPRO Agent Extension, or create New Configuration with [System Management Tool] started from EXPRESSBUILDER DVD-ROM, each items of the BMC Configuration Information are initialized.

If the managed server integrates EXPRESSSCOPE Engine series, Advanced Remote Management Card or ft Remote Management Card, following items for BMC Web server are also initialized because they are shared with BMC Configuration Information:

DHCP Configuration

IP Address

Subnet Mask

Default Gateway

How to set the Web server is following:

- Select［System Management Tool]. on［Tool]. started from EXPRESSBUILDER DVD-ROM, and then select［Web server of BMC].
- Login to Web server of the BMC, and then select［Configuration］－[Network].

8.6 Web client

♦Operation from two or more browsers

NEC ESMPRO Manager cannot be operated using two or more browser windows by one Web client. When you use the browser which has tabbed browsing, the NEC ESMPRO Manager cannot be operated using two or more tab.

♦Downloading Configuration Information File

When you try to download the file from［Configuration Information File］of [Linkage Service］on NEC ESMPRO Manager, Internet Explorer may block the download. Internet Explorer will also display the message on the information bar.

In this case, you can download the file with following settings:

1. Click information bar on Internet Explorer.
2. Click［Download File].
3. Read the confirmation message carefully, and select [Save].

♦Java Plug-in version

To login to EXPRESSSCOPE Engine series through NEC ESMPRO Manager, Java plug-in of the web browser should be version 5.0 and above. If JRE plug-in version is 1.4.2_11 and below, the web browser may stall.

♦Internet Explorer

- The "login to EXPRESSSCOPE Engine series" screen might not be displayed on Internet Explorer.
  In this case, add URL of the EXPRESSSCOPE Engine series to "Add this Web site to the zone".

  1. Select［Internet Options］on [Tools］menu of Internet Explorer.
  2. Click the [Security] tab.
  3. Click [Local Internet］zone, and then click [Sites] button.
  4. Enter the URL of the EXPRESSSCOPE Engine series on [add this Web site to the zone］.
     For example: If the EXPRESSSCOPE Engine series has IP address 192.168.0.100, the URL is "http://192.168.0.100".
  5. Click [Add] button, and then click [OK]
- The screen including Java Applet might not be displayed on Internet Explorer.
  Through the following procedure, the situation can be avoided.
  - Disable the check box.
    [Java control panel] - [Advanced] tab [Enable the next-generation Java Plug-in].

♦Note on using Internet Explorer since version 7

If you login to NEC ESMPRO Manager Ver.5 from Web client using Internet Explorer for a long time, according to Internet Explorer restriction (for detail, see Microsoft Knowledge Base 830555), memory usage of Internet Explorer on Web client will increase. (About 10MB a day at maximum.)

So, do following processes if you use it for a long time after login from Web client.

- Logout Web client regularly. The increased memory by Internet Explorer restriction will be released by logout.

♦Using Firefox

The screen including Java Applet might not be displayed on Firefox. Through the following procedure, the situation can be avoided.

- Modify the version of Java Plug-in of Web browser.
- Use Internet Explorer.
- Disable the check box.
  [Java control panel] - [Advanced] tab [Enable the next-generation Java Plug-in].

♦Using the AlertViewer

In some environments, a pop-up window must be allowed on a browser to use the AlertViewer.

If the pop-up window is not allowed, the AlertViewer may not work properly.

♦[Back] button of the browser

NEC ESMPRO Manager cannot be operated using browser functions like the [Back] button. The screen contents cannot be displayed correctly on browsers.

Choose a necessary link or a button again in that case.

♦Automatic logout

NEC ESMPRO Manager logs out automatically when you do not operate a screen for more than 30 minutes.

When you continue the operation, login to NEC ESMPRO Manager again.

8.7 Applications run on the Management PC

♦NEC ESMPRO User Group

To use applications run on the management PC, let the user belong as a member of the NEC ESMPRO User Group (by default, Administrators).

♦Coexistence of NEC ESMPRO Manager with other vendor's SNMP management application

When another vendor's SNMP management application which receives an SNMP trap is used along with NEC ESMPRO Manager, one of them may fail to receive the SNMP trap due to a conflict between the two applications. Through the following procedures, the situation can be avoided.

[Work Around 1]

If the other vendor's SNMP management application supports the trap reception function of standard SNMP Trap Service, you can change the setting of NEC ESMPRO Manager according to the instruction below.

Select [Options] - [Customize] - [My Manager] on the Operation Window, and change the Method of receiving an SNMP Trap to ［Use SNMP Trap Service］.

The SNMP Trap Service is installed together with the SNMP Service. However, it does not start by default. Start [Services] from [Control Panel] to start up the SNMP Trap Service (It is useful that you set [Automatic] for [Startup type].).

Note that if you set to use SNMP Trap Service, the name of the NetWare server (host) that sent a trap via the IPX protocol cannot be identified.

[Work Around 2]

By utilizing the ［TCP/IP report to Manager］ function of NEC ESMPRO Agent, the alert reception function of NEC ESMPRO Manager operates normally.

TCP/IP report to Manager : Transfers an alert from a server to the NEC ESMPRO Manager using an original protocol.

Note that the operability of the SNMP Trap reception function on the other vendor's SNMP management application cannot be guaranteed

♦Transfer of DMI events on Inter-Manager Communication

DMI events are not transferred between the Inter-Manager Communication.

♦Installing other DMI management application and manager on the same machine

In case when other DMI management application is installed to the same machine, receiving DMI events with AlertViewer may not work properly.

Be sure not to install NEC ESMPRO Manager and DMI management application on the same machine.

♦Monitoring Ver. 3.2 or prior version of NEC ESMPRO Agent and DMI Agents

A function for monitoring Ver. 3.2 or prior version of NEC ESMPRO Agent and DMI Agents has been removed from the NEC ESMPRO Manager Ver. 4.3 or later. As a result, the Manager behaves as follows.

- By performing auto-discovery, server icons are registered on the Operation Window.
- SNMP traps and DMI events sent from monitored servers are displayed on the AlertViewer properly.
- If the [Watch Server Status] properties are "On" for Ver. 3.0 or prior version of NEC ESMPRO Agent, the status color is displayed in gray (unknown). Set "Off" for the [Watch Server Status] properties or delete the icon of the Agent.
- Status of DMI Agents is not monitored through DMI even if the "Watch Server Status" properties are "On".
- The information of Ver. 3.0 or prior version of NEC ESMPRO Agent and the DMI Agents is not viewed on the DataViewer or the GraphViewer, and not collected by the Automatic Data Collection function.
- Monitoring storages for NEC ESMPRO Agent Ver. 3.0 to Ver. 3.1 is not supported.

♦Receiving DMI events from the machine belonging to multiple networks

Receiving DMI events from the machine (with multiple IP addresses) belonging to multiple networks may not be available.

♦Using NEC ESMPRO Manager on a machine with a high load

- **When a machine on which the NEC ESMPRO Manager is installed is under high load:**

  If you use the machine with an extremely high load such as when 100% of the CPU has been used for a long time period, the message "Communication with NVBase System Service became invalid" may appear.

  Manager applications communicate with a service (NVBase System Service). The above message appears when the communication is timed-out due to high load.

  If this message appears, decrease the load on the machine and restart the application.

- **When a machine on which the NEC ESMPRO Agent is installed is under high load:**

  If a machine on which the NEC ESMPRO Agent is installed is operating with a high load, NEC ESMPRO Agent does not respond to the query from the NEC ESMPRO Manager. Therefore, the following problems may occur:

  - The icon for the machine is grayed out on the Operation Window.
  - The following error messages are displayed when the DataViewer is started.

    Could not collect information on the host.

    Refer to Recovery Action for errors in DataViewer Help.
  - The machine information becomes "Unknown" on the DataViewer

♦Transmitting and receiving packets between NEC ESMPRO Manager and NEC ESMPRO Agent

Packets will be transmitted/received between NEC ESMPRO Manager and the Agent at the following times.

We recommend reasonable care in operating in a system which charges you for things such as connection on a WAN.

In addition, note that a large amount of data is flo wn in server management by DMI (Se t "On" for DMI Agent displayed on a server ic on on the Op eration Window).

* Server management by DMI i s for other vendor's server cl ient on which DMI is in stalled. You do not need t o use DMI for mana ging machines on which NEC ESM PRO Agent is inst alled.

- At autodiscovery of serv ers on the Op eration Window.
- At a specified interval after specifying regular autodiscovery on the Operation Window.
- When deleted server where DMI age nt is checked for i ts properties on the Oper ation Window.
- When DMI Agent is re gistered on the Op eration Window.
- When the DMI Agent is turned OFF on t he Operation Window.
- When the DMI Agent is turned ON on the Operation Window.
- When Remote Wake UP is executed on the Oper ation Window.
- Irregularly, after specifying inter-manager communication on the Op eration Window.
- At receiving an SNMP Trap.
- At receiving DMI event.
- At startup of the o perating system, for al l the DMI ag ents registered at the Operati on Window.
- About every one minute after DataViewer is started.
- About every one minute after GraphViewer is st arted.
- At a specifi ed interval for a specified server, after setting Automatic Data Collection.
- Regular polling about every one m inute to monitor server status.*

* This can be avoided by turning "Watch Server S tatus" off at the Prop erties dialog box on th e Operation Win dow's server i con. However, the se rver status will not be reflected in the color of the icon on the Operation Window.

♦Setting an SNMP trap destination

When you install NEC ESMPRO Manager and NEC ESMPRO Agent on th e same computer, specify the IP ad dress assigned to the network card or th e host name as the SNMP trap destination for the computer, instead of the loop back address 127.0.0.1. If you specify 127.0.0.1, "unknown server" may be displayed on th e Alert Viewer.

On the other hand, you may need to specify 127.0.0.1 for a computer not connected to the network. For mor e information, see "Settings on Standalone Environments Without Network Connections" below.

If the follo wing is dis played on the AlertViewer even when you have specified as above,

Component : {unknown server}

Address : 127.0.0.1

change the IP address to 1 27.0.0.1 on the properties of the server ic on on the Op eration Window.

♦Settings on standalone environments without network connections

When you install the NEC ESMPRO Manager and the NEC ESMPRO Agent on a machine together, if the machine is not connected to the network, take the following steps to monitor the machine itself:

- Specify 127.0.0.1 for Start Address and End Address as a range for the Auto-discovering.
- Specify 127.0.0.1 for the SNMP trap destination.

If you have already registered server icons, execute AutoDiscover after deleting the icons.

♦Threshold dialog box for the temperature sensor

For some servers, only the Fatal status may be displayed on the dialog box for setting threshold values of the temperature sensor.

In this case, the sliders show yellow (Warning) and red (Fatal), but green is displayed as the actual status color when temperature of a target machine is lower than the specified Fatal limit.

♦Versions when using Inter-Manager Communication

If you use Inter-Manager Communication between different versions of the NEC ESMPRO Manager, the following problems may occur:

- The alerts will not be sent to the neighbor manager.
- Part of the information will not be displayed in the DataViewer.

When you use Inter-Manager Communication, in advance, be sure to use the same version of the NEC ESMPRO Manager by performing an update installation if needed.

♦Operations as a user who does not have Administrators privilege

When you logon as a user who belongs to the NEC ESMPRO User Group but does not have Administrators privilege, there is the following problem (unless you specified the default Administrators as the NEC ESMPRO User Group during installation of NEC ESMPRO Manager):

If you perform a wrong operation by mistake, perform the following measure:

[Problem]

When you select [Tools] - [Report Settings] on the AlertViewer to open the Alert Manager window, select [Setting] - [Base Setting] on that window to open the Receive tab of the Base Setting window and change the setting of “Receive from Agent (TCP/IP)”, the following will occur:

- When you have changed from Receive valid (green) to Receive invalid (red):
  Even though the status of each item appears to be changed to "Receive invalid (red)", the service (Alert Manager Socket(R) Service) does not actually stop. In such a case, alert messages can never be received but an unnecessary service is running. This results in a waste of resources. In addition, whenever you change this status to Receive valid (green), the following error message appears:
  "Failed to start the service. : (Alert Manager Socket(R) Service)"
- When you have changed from Receive invalid (red) to Receive valid (green):
  Although the following message appears, the status of each item is changed to "Receive valid (green)" for "Receive from Agent (TCP/IP)." However, alert messages cannot be received because the service (Alert Manager Socket(R) Service) failed to start.
  "Failed to start the service. : (Alert Manager Socket(R) Service)"

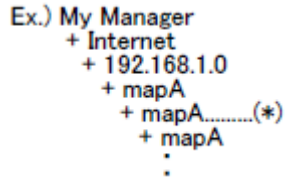
[Work Around]

If you have changed each item on "Receive from Agent (TCP/IP)" as user without Administrators privilege, take the following procedure:

- Logon as a user with Administrators privilege.
- If you have changed each item from Receive valid (green) to Receive invalid (red), restore it to "Receive valid (green)", and change it to "Receive invalid (red)" again.
- If you have changed each item from Receive invalid (red) to Receive valid (green), restore it to "Receive invalid (red)", and change it to "Receive valid (green)" again.

♦Maps to be specified at autodiscovery

After you execute Autodiscover on the Operation Window, maps may be displayed as if they were registered infinitely as shown below:



This problem occurs when a map whose name is the same as its parent map was created at autodiscovery. In such a case, delete the second mapA(*) (in this example) to resolve the situation.

♦Setting a Windows Firewall

If the Windows Firewall is enabled, communication between NEC ESMPRO Manager and NEC ESMPRO Agent will be interrupted and the system will not work correctly.

To use NEC ESMPRO Manager with the Windows Firewall enabled, open the following ports:

[Target Ports]

The following table shows the ports for the Windows Firewall to be set on the [Add a Port] dialog box on a machine on which NEC ESMPRO Manager is installed.

Name (can be changed)	Port number	Protocol	Protocol Environment
Inter-Manager communication	8806	TCP	When Inter-Manager communication is used.
SNMP Trap	162	UDP	When Manager Notification (SNMP) is used (default).
High Reliable Notification	31134	TCP	When Manager Notification (TCP/IP in Band) is used.
Express Notification via Manager	31136	TCP	When Express Notification Service is used via Manager.

For ports used by NEC ESMPRO Manager, see "Appendix Port numbers / Protocols".

<Monitoring a server where multiple IP addresses are set for a single network card>

[Problem]

If a monitored server has multiple IP addresses for a single network card, the IP address of the SNMP Response packet from NEC ESMPRO Agent may differ from the destination address in the IP header of the SNMP Request packet from NEC ESMPRO Manager.

In such a case, if NEC ESMPRO Manager receives the Response packet from NEC ESMPRO Agent before Windows Firewall Service starts, the server can not be monitored thereafter.

[Work Around]

On the Operation Window of the NEC ESMPRO Manager, open [Properties] on the server icon, change the IP address to another one that is set on the monitored server, and reboot the Manager computer.

♦Autodiscovery of Blade Servers

When you execute Autodiscover and register blade servers, the number of slots for storing blades may be displayed differently from the actual one, and some blade images may be placed out of the frame. In such a case, follow the steps below to change map properties on the Operation Window:

1. Right-click the target blade map icon, and select [Properties] from the pop-up menu.
2. Double-click [Background], and select an appropriate background image.
3. Double-click [Maximum Number of Blade Slot in Chassis], and set an actual maximum number of slots.
4. Click [OK] to complete the settings.

♦Autodiscovery of SIGMABLADE

When CPU blades are autodiscovered before EM Cards are done, the autodiscovered CPU blades will be registered directly under the network map that you specified at autodiscovery, not under a blade map. In such a case, delete the registered CPU blades, and autodiscover them again as follows:

<When EM Cards and CPU blades are in the same segment>

Register EM Cards first, and then autodiscover corresponding CPU blades, or specify the range of the addresses to include the EM Cards and the CPU blades that are in the same Blade Enclosure and autodiscover them.

<When EM Cards and CPU blades are in different segments>

Register EM Cards first, and then autodiscover the corresponding CPU blades.

♦Display of the network speed on the DataViewer

- When you monitor Linux servers, Speed will not be displayed on the Network General view of DataViewer. In such a case, check it on monitored servers.
- When you monitor Windows servers which have network interfaces of which speeds are 10Gbps or over, Speed may not be displayed correctly on the Network General view of DataViewer. In such a case, check it on the monitored servers.
- When you monitor Windows Server 2008 servers which have network interfaces with which a cable is not connected, an incorrect value (4,294 Mbps) may be displayed for the Speed on the Network General view of DataViewer.

♦Display of the network status on the DataViewer

When you monitor a server with Windows Vista installed, the message "Dormant" appears for Status on the Network General window of the DataViewer even if the network properly works. In such a case, check the network status on the monitored server.

♦Display of the teamed network interfaces on the DataViewer

If network interfaces are teamed on a server with Windows Vista / Windows 7 /Windows Server 2008 / Windows Server 2008 R2 installed, the network information may not be properly displayed on the DataViewer. Check it on the monitored server.

♦Display of the Memory Information on the DataViewer

When you monitor a virtual machine running on Hyper-V with dynamic memory enabled, the following memory information may be displayed incorrectly.

- Physical Memory Capacity
- Physical Memory Available
- Physical Memory Currently Used
- Physical Memory Percent Used

♦Coexistence of NEC ESMPRO Manager with HP OpenView Network Node Manager (NNM)

- To install NNM on the environment where the NEC ESMPRO Manager has been installed, take the following steps before installing NNM:
  1. Select [Options] - [Customize] - [My Manager] on the Operation Window and set the Method of receiving SNMP Trap to "Use SNMP Trap Service" on the My Manager dialog box.
  2. After the above, the dialog box stating that［Changes will take effect after the computer has been restarted］appears. Exit the Operation Window and then take the following steps without shutting down and restarting the system
  3. Exit all applications related to NEC ESMPRO, such as AlertViewer, DataViewer, and GraphViewer.
  4. Exit "ESM Base Service" (and other dependent services) by selecting [Administrative Tools] - [Services].

  After the above, install NNM and restart the computer.
- To install NEC ESMPRO Manager on the environment where NNM has been installed, restart the computer and take the following steps after the installation of NEC ESMPRO Manager completes:

  Select [Options] - [Customize] - [My Manager] on the Operation Window and set the Method of receiving SNMP Trap to "Use SNMP Trap Service" on the [My Manager] dialog box.

  After the above, restart the computer.

Appendix

♦Port numbers / Protocols

NEC ESMPRO Manager uses the following port numbers and protocols.

In case of two-way protocol, upper arrow shows that connection starts, and lower arrow shows that connection turns.

In case of port No. unknown, unused port is used to start connection.

[Web Client <->Management PC]

Function	Web Client		Protocol /direction	Management PC	
	Component	Port No.		Port No.	Component
Management/ monitoring	Web Browser	Unknown	TCP -> <-	8080(*1)	NEC ESMPRO Manager

*1 You can change the port number at the installation or see the [Changing the port number].

[Management PC <->Managed Server]

Function	Management PC		Protocol /direction	Managed Server	
	Component	Port No.			Component
SNMP report to Manager	NEC ESMPRO Manager	162	UDP <-	Unknown	NEC ESMPRO Agent
TCP/IP report to Manager (TCP/IP in Band)	NEC ESMPRO Manager	31134 (*1)	TCP <- ->	Unknown	NEC ESMPRO Agent
Auto Registration Server Monitoring (SNMP)	NEC ESMPRO Manager	Unknown	UDP -> <-	161	NEC ESMPRO Agent
Auto Registration	NEC ESMPRO Manager	--	ICMP -> <-	--	NEC ESMPRO Agent
BMC Setting NEC ExpressUpdate	NEC ESMPRO Manager	Unknown	TCP -> <-	443(*2)	BMC
Alert from BMC	NEC ESMPRO Manager	162	UDP <-	623	BMC
Server Monitoring	NEC ESMPRO Manager	47117(*3)	UDP -> <-	623	BMC
Information Collection (through BMC)	NEC ESMPRO Manager	47117(*3)	UDP -> <-	623	BMC
Remote Batch	NEC ESMPRO Manager	47117(*3)	UDP -> <-	623	BMC
Operation with Command Line I/F	NEC ESMPRO Manager	47117(*3)	UDP -> <-	623	BMC
Power Control	NEC ESMPRO Manager	47117(*3)	UDP -> <-	623	BMC
Remote Console (CUI, SOL)	NEC ESMPRO Manager	47117(*3)	UDP -> <-	623	BMC

Remote Console (CUI, non-SOL)	NEC ESMPRO Manager	47115	UDP -> <-	2069	System BIOS
BMC configuration with network booting	NEC ESMPRO Manager PXE Service	67	UDP -> <-	68	System BIOS
		67 or 4011		Unknown	
		69		Unknown	
Remote Wake Up	NEC ESMPRO Manager	Unknown	UDP ->	10101	LAN Board
Information Collection (through NEC ESMPRO Agent Extension)	NEC ESMPRO Manager	Unknown	TCP -> <-	47120-47129(*4)	DianaScope Agent NEC ESMPRO Agent Extension
Scheduled Running	NEC ESMPRO Manager	Unknown	TCP -> <-	47120-47129(*4)	DianaScope Agent NEC ESMPRO Agent Extension
Search of NEC ExpressUpdate Agent, Universal RAID Utility	NEC ESMPRO Manager	Unknown	UDP -> <-	427	ExpressUpdate Agent Universal RAID Utility
NEC ExpressUpdate, Universal RAID Utility	NEC ESMPRO Manager	Unknown	TCP -> <-	Unknown	ExpressUpdate Agent Universal RAID Utility
NEC ExpressUpdate ,Universal RAID Utility event monitoring	NEC ESMPRO Manager	8080	TCP <- ->	Unknown	ExpressUpdate Agent Universal RAID Utility
Remote installation of the NEC ExpressUpdate Agent (When managed server's OS is Windows type)	NEC ESMPRO Manager	Unknown	UDP -> <-	137	OS
		Unknown	TCP -> <-	445	OS
Remote installation of the NEC ExpressUpdate Agent (When managed server's OS is Linux type)	NEC ESMPRO Manager	Unknown	TCP -> <-	22	OS

*1 The port number used by TCP/IP report to Manager can be changed in "TCP/IP Report Setting" screen of AlertViewer.

*2 The BMC's port number can be changed on [BMC Setting] - [Network] - [Service].

*3 The NEC ESMPRO Manager's port number used for communication with the BMC can be changed on the "Environment" screen.

*4 The module uses the lowest unused port of the range.

[Management PC -> EM Card]

Function	Management PC		Protocol /direction	EM Card	
	Component	Port No.		Port No.	Component
Information Collection	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
	NEC ESMPRO Manager	47170-47179(*2)	TCP/IP <-	623	EM Card
	NEC ESMPRO Manager	47180-47189(*2)	UDP -> <-	623	EM Card
EM Card Monitoring (SNMP)	NEC ESMPRO Manager	Unknown	UDP -> <-	161	EM Card

Auto Registration EM Card Monitoring	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
BMC configuration of CPU blade	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
Operation with Command Line I/F	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
SNMP Trap	NEC ESMPRO Manager	162	UDP <-	Unknown	EM Card
Ack sending for SNMP trap	NEC ESMPRO Manager	Unknown	UDP ->	5002	EM Card

*1 The NEC ESMPRO Manager uses a same port number for communication with BMC and EM card. The port number can be changed on the［Environment］screen.

*2 The module uses the lowest unused port of the range.

[Management PC <-> Other Vendor's Management Console]

Function	Management PC		Protocol /direction	Other Vendor's Management Console	
	Component	Port No.		Port No.	Component
SNMP Trap Redirection	NEC ESMPRO Manager	Unknown	UDP ->	162	Other Vendor's Management Console

[Inside of the Management PC]

Function	Component	Port No.	Protocol /direction	Port No.	Component
NEC ESMPRO Manager	NEC ESMPRO Manager	1099 51099-51107 (*1)	UDP -> <-	1099 51099-51107 (*1)	NEC ESMPRO Manager
NEC ESMPRO Manager	NEC ESMPRO Manager	8105 8109	TCP -> <-	8105 8109	NEC ESMPRO Manager
BMC Configuration with NEC ESMPRO Manager PXE Service	NEC ESMPRO Manager	Unknown	TCP -> <-	47160-47169	NEC ESMPRO Manager PXE Service
	NEC ESMPRO Manager PXE Service	31200	UDP -> <-	31200	NEC ESMPRO Manager PXE Service
NEC ESMPRO Manager Direct connection / Modem connection	NEC ESMPRO Manager	Unknown	TCP -> <-	47140-47149(*1)	NEC ESMPRO Manager (DianaScope Modem Agent)

*1 The module uses the lowest unused port of the range.

[**Applications run on the Management PC**]

Function	Component	Port No.	Protocol /direction	Port No.	Component
Inter-Manager Communication	ESM Base Service	Unknown	TCP -> <-	8806	ESM Base Service
Alert Viewer	Alert Viewer	Unknown	TCP -> <-	8807(*1)	ESM Alert Service

*1 You can change the port number from [Tools] - [Port Settings] of AlertViewer.
Adding a Firewall exception is not needed.

♦Services

[NEC ESMPRO Manager]
NEC ESMPRO Manager uses the following services.

Service Name	Process Name	Function
Alert Manager Main Service	AMVMain.exe	Various processing about reports.
Alert Manager Socket(R) Service	amvsckr.exe	Receiving TCP/IP In-bound report.(*1)
Dmi Event Watcher	dmieventwatcher.exe	Receiving DMI events.
ESM Alert Service	esmasvnt.exe	Receiving traps (alerts).
NVBASE System Service	nvbase.exe	Communication base for NEC ESMPRO Manager.
ESM Command Service	nvcmd.exe	Periodical command execution.
ESM Remote Map Service	nvrmapd.exe	Synchronizing Remote Map status color.
ESMPRO/SM Base Service	esmdsvnt.exe(*3) esmdsvap.exe	Server status watching.
ESMPRO/SM Trap Redirection	esmtrprd.exe	SNMP trap transferring function. (*2)
ESMPRO/SM Common Component	jsl.exe	Main service
ESMPRO/SM Web Container	jsl.exe	Web application server
DianaScope ModemAgent	DianaScopeModemAgent.exe	For modem/direct connection

*1 This service has stopped when "Receive from Agent (TCP/IP)" of the TCP/IP Report Setting is disabled.

*2 The startup is set as "Manual" by default.

*3 For ESMPRO/SM Base Service, esmdsvnt.exe is registered as a service process, and esmdsvap.exe is started and stopped on starting and stopping the service.

- **Dependencies of the services**

The dependencies of the services are the followings:

Alert Manager Main Service
NVBASE System Service
ESM Alert Service
Alert Manager Socket(R) Service
Dmi Event Watcher
ESM Command Service
ESM Remote Map Service
ESMPRO/SM Base Service
ESMPRO/SM Trap Redirection
ESMPRO/SM Common Component
ESMPRO/SM Web Container
DianaScope ModemAgent

- **Order of starting or stopping services**

  To start or stop services, perform the following procedure.

  ♦Starting services

  1. Alert Manager Main Service
  2. ESM Base Service
  3. ESM Remote Map Service
  4. ESM Command Service
  5. ESM Alert Service
  6. Dmi Event Watcher(*)
  7. ESMPRO/SM Base Service
  8. ESMPRO/SM Trap Redirection(*)
  9. AlertManager Socket(R) Service(*)
  10. ESMPRO/SM Web Container
  11. ESMPRO/SM Common Component
  12. DianaScope ModemAgent

  ♦Stopping services

  1. DianaScope ModemAgent
  2. ESMPRO/SM Common Component
  3. ESMPRO/SM Web Container
  4. AlertManager Socket(R) Service(*)
  5. ESMPRO/SM Trap Redirection(*)
  6. ESMPRO/SM Base Service
  7. Dmi Event Watcher(*)
  8. ESM Alert Service
  9. ESM Command Service
  10. ESM Remote Map Service
  11. ESM Base Service
  12. Alert Manager Main Service

  * It may be stopped depending on the settings. In such a case, there is no need to start or stop the service.

[PXE Service]

The following services is installed when you select "PXE Service" on the installation.

Service Name	Process Name	Function
ESMPRO/SM PXE Agent Service	PxeAgent.exe	Command execution from the main service
ESMPRO/SM PXE TFTP Service	RMVtfldr.exe	A file transfer to the managed server
ESMPRO/SM PXE BINL Service	RMVBINLS.exe	The boot of the managed server
ESMPRO/SM PXE Main Service	RMVAUTH.exe	PXE Service main service

- **Procedures to start or stop services.**

  To start or stop services, perform the following procedure with the services of NEC ESMPRO Manager started.

  ♦Start procedure

  1. Start ESMPRO/SM PXE Agent Service from [Administrative Tools] - [Service].
  2. After logging on NEC ESMPRO Manager, start the PXE Service from the Linkage Service of the header menu. (*)

     The following services start.

     ESMPRO/SM PXE TFTP Service

     ESMPRO/SM PXE BINL Service

     ESMPRO/SM PXE Main Service

  ♦Stop procedure

  1. After logging on NEC ESMPRO Manager, stop the PXE Service form the Linkage Service of the header menu.(*)

     The following services stop.

     ESMPRO/SM PXE TFTP Service

     ESMPRO/SM PXE BINL Service

     ESMPRO/SM PXE Main Service
  2. Stop ESMPRO/SM PXE Agent Service from [Administrative Tools] - [Service].

  * If you start or stop the services from [Administrative Tools] - [Service], they do not function properly. They may have stopped according to the settings.